

COUNTWAY LIBRARY



HC 318F U

BOSTON
MEDICAL LIBRARY
8 THE FENWAY



Digitized by the Internet Archive
in 2016

<https://archive.org/details/journal2119miss>

THE JOURNAL

OF THE

Missouri State Medical Association

206-20

THE OFFICIAL ORGAN OF THE STATE ASSOCIATION AND COMPONENT SOCIETIES

ISSUED MONTHLY UNDER DIRECTION OF THE PUBLICATION COMMITTEE

PUBLICATION COMMITTEE

W. H. BREUER, Chairman

C. B. FRANCISCO, M.D.

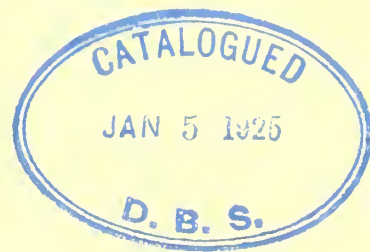
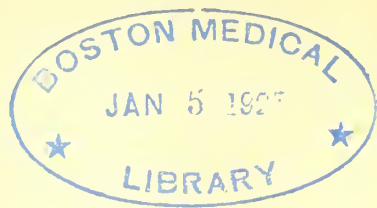
M. A. BLISS, M.D.

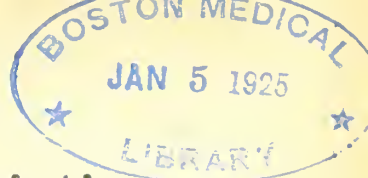
E. J. GOODWIN, M.D., Editor

OFFICE OF PUBLICATION, 901 Missouri Theatre Building, St. Louis, Mo.

INDEX TO VOLUME XXI

JANUARY, 1924, TO DECEMBER, 1924





THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies

Issued Monthly under direction of the Publication Committee

Volume XXI

St. Louis, Mo., JANUARY, 1924.

NUMBER 1

E. J. GOODWIN, M. D., EDITOR
3529 Pine St., St. Louis, Mo.

PUBLICATION { W. H. BREUER, M. D., Chairman
COMMITTEE { S. P. CHILD, M. D.
 { M. A. BLISS, M. D.

ORIGINAL ARTICLES

DEMENTIA PRECOX, A TYPE OF HEREDITARY DEGENERATION

L. B. ALFORD, M. D.

ST. LOUIS.

The situation with regard to the prevention and treatment of mental disease (referring to the so-called constitutional psychoses) is in a state of the greatest confusion. Since the cause and pathology happen to be wholly obscure, it cannot possibly be otherwise. We stand therefore as regards this important group of diseases where our forebears stood before the discovery of microorganisms in dealing with infectious conditions.

A large degree of confusion undoubtedly results from the inability of medical men to form in their minds a conception of the pathological process that may be at work when a case of mental disease of the nature referred to develops in a patient. With nothing tangible for the imagination to build on, speculation runs riot and the most improbable theories are advanced. The viewpoint which is herein supported, although purely speculative, is put forth as being the one apparently most consistent with present day knowledge of nervous afflictions as well as disease processes in general and as affording a rational basis for the formulation of a program of investigation.¹

Dementia precox is selected because, being the best known and the most prevalent psychosis, it at once affords the most facts to work on and presents the most urgent problems for solution. Of its importance it may be said that half the inhabitants of state asylums suffer from this affliction and that a recent estimate places the annual economic loss entailed for the nation at 124 millions of dollars! No estimate can evaluate the grief and confusion which attend the development of a mental disorder in one of the family circle. Furthermore it is not likely that after the nature of dementia precox has been elucidated, manic depressive, the next most frequent psychosis, and others of this group will long remain obscure.

Contemporary investigators have largely

centered their attention on the question of whether or not there are organic changes in the brain in dementia precox. This limitation of effort can hardly be thought justified in view of the obstacles they have encountered because, as all would admit, the failure to find changes does not prove that such do not exist and even if changes were found, it would be necessary to determine the pathological process at work before a practical use could be made of them. The pathological process, therefore, is the important consideration and may be taken up for treatment directly.

STUDY OF DEMENTIA PRECOX BY ANALOGY.

To Mollweide² belongs the credit for the introduction of a novel method of study which in view of the difficulties of the situation is to be regarded as the most practical and scientific available. It is that of analogy. The nature of dementia precox is subsumed from its resemblance or lack of resemblance to other disorders, specifically those of the nervous system. One can say from knowledge at hand that it is similar to this and that disorder and unlike others. As a criterion for judgment, the best appears to be a combination of the negative characteristic of causeless origin and the positive one of progression because both qualities are commonly accepted as belonging to dementia precox and are distinguishing features.

Judged by this criterion a series of nervous disorders easily separates out from the whole field, which with a few exceptions (for reasons of brevity not be considered here) constitute the group frequently designated the heredo-familial degenerations. It includes among many others, *progressive muscular atrophy* and *dystrophy*, *amyotrophic lateral sclerosis*, *Friedreich's ataxia*, *Huntington's chorea*, *otosclerosis* and *familial optic atrophy*. These are obscure disorders which arise without immediate cause and increase in severity at least up to a certain point. That they are similar in nature is of course not proved by conformity to the criterion, but a presumption to this effect is clearly indicated unless there be other evidence to the contrary. In a majority of in-

stances, moreover, direct heredity or at least familial weakness has strong support as an etiological factor. In most of the remainder (for instance, progressive muscular atrophy) heredity is only rarely apparent, although the possibility remains that it is at work in all cases in the form of a long latent character, as occurs occasionally in hereditary conditions such as albinism. It obviously does not invalidate our thesis if there be an error of selection in the case of one or two of the conditions because we are dealing in theoretical probabilities.

It will be noticed that each of the disorders just mentioned affects a particular group of nervous structures and in transmission is true to type. They are as distinct from each other as if different organs were involved. Being often directly hereditary as well as conforming to the criterion selected, dementia precox clearly fits into a group with the others. According to our view then, *dementia precox is to be regarded as an heredo-familial degeneration affecting particular nervous structures*. That such degeneration is not evident under the microscope may be due either to the arrangement of the affected structures or to peculiarities of the process, which defy present technical methods.

The appearance of progression in dementia precox, it may be said, is looked upon by some psychiatrists as being in the nature of a psychic process, as consisting of an increasing withdrawal of interest from external things. Against this contention may be urged the invariable chronicity of the condition which would appear to be inconsistent with a purely psychic process. Furthermore, the appearance of progression is not found in other mental deviations whether psychic or not, such as the psychoneuroses, mental deficiency and psychopathic personality wherein there should be an equally severe psychic stress and a similar excuse for avoiding external conflicts.

The perils of this method of study by analogy are sufficiently obvious for all to see. There is indeed no excuse for its use if another is applicable or when the conclusions are not supported by collateral evidence. However, it is a method that is employed, although perhaps unconsciously, with regard to many medical conditions. Thus scarlet fever and lethargic encephalitis are accepted as infections by a similar process of reasoning. Furthermore, the conclusion that dementia precox originates in an hereditary weakness is that already indicated from an empirical standpoint by the frequency with which direct transmission occurs. The foregoing speculation, indeed, only serves by providing an "explanation" of the process by which heredity works of a nature which the mind can grasp.

NEED FOR RESEARCH IN HEREDITY.

Thus in another way the importance of the force of heredity in dementia precox is emphasized. There is therefore a clear indication for further investigation of this aspect of the problem. We should know more definitely just what importance heredity does have. Are there cases in which no heredity predisposition exists or are those which appear to be such judged so on insufficient evidence? If heredity is dissimilar, what factors acting together lead to the precox type of degeneration? If there be transmission of an acquired condition, what is the source of the original weakness? A score of similar questions present themselves for answer. When dementia precox fails to provide the necessary evidence, we can have recourse to others of the group of hereditary degenerations which are more open to investigation and which, we may assume, follow the same laws in transmission.

TREATMENT AND PREVENTION.

Our conclusions offer no hope from therapy except for the alleviation of symptoms and suggest no measures of prophylaxis except prevention of the breeding of defective stocks. This is indeed a dreary prospect; but it is hopeful in that it provides a definite basis on which to work. We have in the past had too much of reassurance on insufficient grounds and of dodging the issue. It is no kindness to the afflicted to give them false hope. We should be sure of our ground and then have courage to act as our facts dictate. We should expect the time to come when those who contemplate marriage will voluntarily seek advice as to their fitness to produce children.

SUMMARY.

On the evidence of analogy dementia precox appears to belong to the group of heredo-familial degenerations and is therefore to be assumed to depend on the degeneration of a certain set of nervous structures. The important etiological factor is assumed to be heredity, and in order to confirm or disprove this assumption there should be further investigation of the way in which transmission in the hereditary degenerations acts. If this conception be correct, treatment can only serve to alleviate symptoms and prophylaxis must consist in the limitation of reproduction of defective stocks. Until a definite etiology is established, attempts at treatment and prevention can only be guesswork.

3542 Washington Boulevard.

BIBLIOGRAPHY

1. Alford: *Jour. Nerv. and Ment. Dis.*, 1923, v. 58, 135.
2. Mollweide: *Zeit. fuer ges. Neur. u. Psych.*, 1912, v. 9, 62, and 1914, v. 22, 594.

CONSERVATIVE GYNECOLOGY*

QUITMAN U. NEWELL, M.D., F.A.C.S.

ST. LOUIS.

Sometime ago your worthy Secretary invited me to hold a clinic and read a paper before the Central Illinois District Medical Association, and I accepted with great pleasure; so a few days ago I received a letter from him asking me if I would appear on April 24th.

In his letter to me he stated the following: "We want something practical and remember we fellows out in the sticks can't reach the fodder if it is very high in the rack."

Gentlemen, your secretary thought he would stump me on the above quotation, but I likewise was raised on the farm and believe I have placed about as much fodder in the rack as he has. In searching my memory for something that would be pleasing as well as instructive to the gentlemen before me I struck upon the title "Conservative Gynecology," realizing that most of you are fed up on operative work and many get the impression that conditions in the pelvis can be cured only by operative measures, when in reality there are many conditions that will yield to the proper treatment if properly carried out.

The main thing is diagnosis and classification of the existing conditions. It is true that accurate diagnosis requires more than average skill and is only acquired by constant application of all resources at your command. To those of us who are connected with large clinics, where the material is voluminous and we are constantly making examinations, the diagnosis is comparatively easy, and once the diagnosis is established the classification is simple.

In classifying pelvic conditions, three divisions are necessary; (1) operative; (2) non-operative; (3) border line cases. With but few exceptions we no longer classify pelvic conditions by the amount of pathology found in the pelvis, but the patient's general condition is considered, paying special attention to the amount of incapacity and discomfort the patient experiences. How many times do we find a fibromyoma of the uterus or a retroversion, or some other condition of the pelvis that gives the patient very little discomfort? Why should we operate on such a condition? It is far better to place that patient under observation and if she does not develop any incapacity she will go on to menopause and then when the pelvis undergoes its atrophic changes the condition will be cured. If at any time during the course some untoward symptom should arise then there is plenty of time to do the necessary operative work.

In presenting this subject before you, I will try to explain briefly a few of the conditions as you meet them in every-day life. When a patient presents herself to you, you should make a careful history of her case, dealing at length with her present complaint, questioning her especially as to her age and amount of incapacity. (I might add here that a general knowledge of medicine such as you have is very essential in making a diagnosis of any part of the anatomy. There is no physician like the general practitioner and the handicap of many of our specialists is that they become narrow and think every woman's complaint is due to their immediate specialty, whereas, if they had a general idea of medicine and looked at conditions from a broader angle, they would be better fitted to make an accurate diagnosis.) After obtaining a careful history and fixing in your mind the important points bearing on the case, a very careful general examination should be made regardless of the patient's complaint being limited to the pelvis, as no pelvic condition, however mild, should be treated unless you have a knowledge of the patient's general make-up. In treating a patient for some pelvic condition, her constitution must be treated at all times. Many failures are due to the fact that the physician treats the pelvis alone because he has some local condition there, whereas, if he treated the patient's general constitution he would derive remarkable benefits. Most patients suffering from pelvic disease are low in resistance and their general health needs care. Their diet and bowels must be looked after; tonics in the form of iron, arsenic, sodium bromide, etc., are very essential; hygiene in the form of rest, proper exercise and sleep are most important, and in recent years our knowledge of endocrinology has shown us that many of the menstrual disorders are due to disordered function of the ductless glands, and this likewise must be taken care of.

I will try to enumerate some of the common conditions met with in gynecological practice and attempt briefly at a classification that will enable you to determine whether the case is operative, non-operative, or border line:

Pelvic Inflammation. Acute infection of the urethra, vagina and cervix, which may be specific or non-specific. Smears should be taken from the urethra and cervix and microscopical examination made in order to determine the organism present. The patient should be told her condition as far as circumstances will permit so as to get the best co-operation possible, but at all times taking great care not to incite the family and thus stir up domestic troubles. She should have a very bland diet, forced water and as much rest to the body, especially the pelvis, as possible, and no pelvic manip-

*Read before the Central Illinois District Medical Association, Pana, Ill., April 24, 1923.

ulation, intercourse, etc. The local treatment should consist of taking douches, the more the better, of two per cent sodium bicarbonate solution, which is the best alkali at hand and which works twofold, (1) it renders the vaginal tract to a certain degree alkaline, (2) it works mechanically by keeping the parts clean and not allowing the vaginal secretions to accumulate. Twice a week the vaginal tract should be thoroughly cleansed with some known antiseptic, as the silver nitrate preparations, mercurochrome 220, or tincture iodine $3\frac{1}{2}$ per cent. I have been using the tincture iodine for the past few years and have found it very efficacious and very easy to apply and it does not soil the clothing. If urination is very painful and frequent it can be easily taken care of by using urotropin or acid sodium phosphate by mouth. Under the above treatment, with the best co-operation of the patient, a great percentage of the cases will never extend on into the pelvis and cause permanent damage. However, in spite of all the treatments and care you can give some of the cases you are going to have an ascending infection and spread beyond the cervix and involve the endometrium of the uterus and on up into the fallopian tubes and ovaries out into the cellular tissues of the pelvis and then have a pelvic peritonitis. This spreading process usually occurs at the menstrual time, and as a preventive to such a condition the patient should be placed in bed with an ice cap to the lower abdomen continually throughout the menses. After the process has reached the higher pelvic structures, one of two things is the course; (1) inflammation of the tubes, which varies from mild to pyosalpinx and cellulitis formation, and may be unilateral or bilateral, depending on the organism present; (2) the formation of a pelvic abscess which usually forms behind the uterus in the cul-de-sac. If an abscess is formed, the proper treatment is vaginal drainage and only in extreme circumstances should abdominal operation be performed. If the condition is one of cellulitis and salpingophoritis, during the acute stage the patient should be placed at bed rest, her diet and bowels looked after and ice bag to the abdomen continually, together with vaginal irrigations of plain hot water 115 degrees F. four times in every 24 hours. After the temperature has subsided and the condition has reached what we now call the chronic stage and one or both tubes are large, swollen and contain pus (and at times the masses may be the size of a small lemon), the patient should be placed on heat to the pelvis, either in the form of sitz baths, or dry heat in some form, as the hot-water bottle, electric baker, or electric pad, and begin local vaginal treatments with some of the medicated tampons used in gynecological treat-

ments. This course of conservative treatment may seem long and drawn out and it usually extends over a period of many months, but the ultimate outcome in many patients is good. There are two very important factors to be considered in conservative treatment of pelvic inflammation. One is, usually the majority of the cases are sterile after the inflammation has subsided; the other is, you have preserved ovarian function which is a very important factor in young women.

There is a certain type of women with pelvic inflammation that must be operated on because their environment and domestic life demand that something be done in order to get them back to duty in the least possible time. We all know that a great many women have to earn their own living and that every day they lose from duty means a great burden to them and they are willing to sacrifice their pelvic organs in order to get back to duty. This procedure is very justifiable in women nearing the menopause, where removal of the ovaries does not cause very much disturbance, but what about the young girl from 20 to 30 years, as it is in this class that we see the majority of cases. Is it not better to treat the condition conservatively than to remove her pelvic organs? I think the most of you who do some pelvic surgery will agree with me that in operating on a woman for chronic pelvic inflammation in most all cases it is necessary to remove the uterus, both tubes and both ovaries and thus destroy her power of womanly function. I will admit the rule is to leave at least one ovary and the uterus so as to preserve menstruation, but how many times after a few years have elapsed, has that same patient re-entered the hospital because she has a cystic ovary or some trouble which originated from the past inflammation and has to be operated on again and remove all that was left from the previous operation. These things should be taken seriously and if a great many women can be cured of pelvic inflammation without operation it is worthy of consideration.

Retroversion of Uterus. This common condition is usually considered under four classes: (1) simple retroversion, due to disturbances of the normal mechanics, physics, or dynamics of the pelvic organs; (2) inflammatory, in which the uterus is displaced by a pus mass and afterwards drawn back by adhesions; (3) acquired, as the result of injury or relaxation consequent upon childbirth with subsequent subinvolution of the uterus and its supporting ligaments; or due to new growths of the uterus or adnexa; (4) congenital, where the woman has no inflammatory condition or has never borne children.

Not all retroversions give trouble; in fact, a great many never give any trouble; this is

especially true of the congenital type. The retroversion arising from new growths about the uterus or adnexa, or associated with subinvolution or relaxed or lacerated pelvic floor, can never be cured except by operation and just as soon as discovered should be classified as operative and no attempt at palliative treatment instituted.

Simple retroversion and acquired retroversion if properly managed will respond to conservative treatment. Before the acquired retroversion, which is usually associated with pelvic cellulitis, can be reduced and brought forward, we have to treat the cellulitis and after that has subsided, the uterus can be brought forward. There are many physicians who do not understand the technic to reduce a uterus from retroversion to antelexion and have the opinion that every retrodisplacement should be operated on, when in reality very few simple retroversion or acquired retroversion ever need operation. Those that do need operation should at first wear properly fitted vaginal pessary for at least six months; if the ligaments fail to involute and keep the uterus forward when the pessary is removed and the patient's symptoms are relieved as long as the uterus is held forward, then an operation for shortening the ligaments is indicated. In bringing forward a uterus one of the two following methods are very helpful: (1) insert two fingers of the left hand into the vagina and with tennaculum forcep grasp the anterior lip of the cervix and make downward traction in order to shorten the depth of the vagina, then hold the tennaculum forcep firmly with the ring finger flexed firmly in palm of left hand and at the same time with the index and second finger raise the fundus as high as possible and with the right hand reach down through the abdominal wall and get behind the fundus and with a forward movement of the right hand sweep the uterus forward, at the same time with the two vaginal fingers carry the cervix far back into the cul-de-sac; (2) with index and second finger of left hand in vagina pass the index finger behind the cervix and the second finger in front of the cervix and draw down the anterior vaginal wall and shorten the depth of the vagina, then institute the same movements as described in (1). After the uterus is brought forward it should be maintained in that position with a properly fitted pessary.

A Word About Pessaries. Innumerable forms have been recommended and to attempt to mention all of them would be a waste of time. The pessary has been in use for correction uterine displacements for over 100 years, but in 1835 Dr. Hodge, Professor of Diseases of Women, University of Pennsylvania, de-

vised a very satisfactory pessary which today is in use with some slight changes by most gynecologists. The first modification of the Hodge pessary was by Dr. Albert Smith, who narrowed the anterior end so that it fits well up into the narrow portion of the pubic arch. He called it the Hodge-Smith pessary.

The next modification was by Thomas, who modified the Smith pessary by thickening the posterior end into a bulbous enlargement. This distributes the pressure over a larger surface of the posterior fornix and in that way tends to prevent pressure injury of the vaginal vault at that point. This was called the Smith-Thomas pessary.

Any of the three above described pessaries is very satisfactory and as one becomes better acquainted with their uses the better are going to be his results.

There are some essential points to bear in mind in using pessaries. They must fit properly, they must be inspected monthly and the patient must douche daily. A good rule to remember is that a pessary should not be worn longer than six months. If at the end of that time you remove the pessary and retrodisplacement recurs then the patient should have an operation performed for correction.

Fibromyoma of Uterus. This is a very important condition in gynecological classification and is a very common condition. A great majority colored women beyond the age of 30 years presenting themselves for pelvic examination invariably have fibromyoma of the uterus. It is not so common in white women. Should we operate just because she has a fibromyoma of the uterus? No. Let us stick to our original statement and if it causes no discomfort and incapacity, let it alone. Rarely do small fibromyomas of the uterus, unless they are submucous in type, cause any trouble. Remember the important symptoms caused by fibromyomas—menstrual disturbances, pressure to surrounding structures causing pain, etc., and disfigurement of the abdomen due to enlargement. If none of these symptoms are present the patient or some of her nearest of kin should be advised of her condition and she placed on the observation list with instructions to report to you at regular intervals. If the fibromyoma is larger than a grape fruit and causing trouble the condition is operative regardless of the age of the patient. If the tumor is smaller than a grape fruit and no complications are present, as inflammation, etc., and the patient is nearing menopause, the condition can easily be cured by radium or X-ray therapy. If the patient is less than 35 years and the tumor of the same size and causing trouble, then an operation is indicated. The reason of this difference in treatment of a

tumor of same makeup is the age of the patient. Operations on young women are for the purpose of ovarian preservation, and when radium is applied for the cure of these fibroids we destroy ovarian function and thus produce a menopause which is justifiable in patients entering that stage of life.

Carcinoma of Uterus. If I did not speak a few words about cancer of the uterus I would feel that I had not filled my mission. Unfortunately we do not know the cause of cancer and as long as we are searching for a cause of this terrible condition we are going to have the blood in our bodies sipped from us by its presence. Cancer is curable if it is discovered early and the only way we can discover it early is simply to be on the lookout for it at all times. If discovered in time, before metastasis has taken place, operative treatment is indicated. The majority of cases of cancer of the uterus are never seen until they have involved the whole vaginal tract or have destroyed portions of the uterus which renders them inoperable and the only thing that can be done then is to give them supportive treatment and make them comfortable for the end which is not far distant. At present radium and X-ray give them wonderful relief, but do not come up to our expectation of cures that we had hoped for a few years ago.

Cancer of the uterus is seen during any age of life, but the majority are after 35 years. The diagnosis is made by examining every woman that has intermenstrual bleeding from unknown source. If the cervix shows enlargement with erosion and bleeds on manipulation, a small piece of tissue should be excised and sent to the laboratory for diagnosis. If the bleeding comes from within the uterine cavity, a diagnostic dilatation and curettage and collection of the endometrium should be performed and the specimen sent to the laboratory for diagnosis. This is the only way that early carcinoma of the uterus can be diagnosed and I wish I could impress on every one of you to be on the lookout for this condition.

411 Wall Bldg.

THE SCOPE OF THE DEPARTMENT OF GYNECOLOGY IN THE MISSOURI PACIFIC HOSPITAL*

GEORGE GELLHORN, M.D., F.A.C.S.

Gynecologist-in-Chief, Missouri Pacific Hospital.

ST. LOUIS.

The establishment of a separate Department of Gynecology in the Missouri Pacific Hospital immediately raises the question as to the

sphere of usefulness and kind of work the new department will find in the economy of this institution. Is it to be closed off by itself, hermetically sealed as is so often the case elsewhere, or shall it intermingle freely with the other departments?

I am certain that you will agree that no good can come from any sort of isolation in this as well as in any other form of human activity. To be sure, there must be well defined departments in any hospital. The development of medicine has made such stupendous strides that it is physically and mentally impossible for any one man to master more than a very small part of the entire field. Within the confines of this small part he is the expert, the authority. But if he should occupy himself exclusively with the subjects that lie obviously and altogether in his special field, and overlook the fact that every part of the body is connected with all the rest, he is in danger of that overspecialization which has so justly been criticized, and is apt to treat only a certain organ or set of organs instead of the sick patient who comes to him for help.

There are three possibilities which we have to consider in the treatment of disease in our various specialties:

1. The disease remains strictly localized from the beginning to the end of its course.
2. The disease produces symptoms in distant parts of the body, or even affects the entire organism.
3. A disease of another organ or a general disease causes manifestations in our own special field.

The first of these possibilities leaves the case strictly within the realm of the respective specialty; the last two are likely to call for collaboration with other specialties.

Permit me to point out how these questions apply to gynecology, in other words, *how gynecology is related to the other branches of medicine.*

Let us begin with *dermatology*. It is an established fact that important connections exist between certain skin diseases and the normal and pathological processes of the female genitals. You all know of the frequent occurrence of herpes eruption about the lips and nose at the time of menstruation. Herpes about the external genitals occurs at times prior to menstruation and is indicative of great sexual irritability. I have observed a case of genital herpes in a woman with retroflexion. As long as the uterus was held forward by a pessary, the eruption would be absent, but it would return if the uterus again fell backward. Eczema and intertrigo about the vulva are often due to irritating vaginal discharges and will resist all efforts of the dermatologist until gynecologic treatment is administered. Acne fre-

*Read in the meeting of the Medical Staff of the Missouri Pacific Hospital, October 10, 1923.

quently occurs at puberty. In girls in whom it is not quite as common as in boys, it is very often associated with scant menstrual flow and leucorrhea and yields more readily if dermatologist and gynecologist work in unison. Pronounced pigmentations occur more generally in pregnancy. Occasionally they are observed in large ovarian cysts and in such a case must induce the dermatologist to invoke gynecological assistance. On the other hand, the reverse of pigmentation, the so-called vitiligo, is likewise benefited at times by operation for some gynecologic ailment. I have had two cases of this sort, referred by dermatologists, where after the gynecologic operation the areas of pigment atrophy became less pronounced. The falling out of hair is another condition where dermatology and gynecology sometimes come into contact, and I think in particular of a patient referred by Drs. Engman and Mook a year or so ago, whose baldness resisted all treatments applied. She had absolutely no gynecologic symptoms, though I found in her a fibroid of imposing size. About one year after the removal of this fibroid, the patient again had a full growth of hair on her head. Whether the alopecia in this case was due to the secondary anemia or to any toxic effect of the fibroid, must be left undecided. I am more concerned with the fact that there are occasional instances where the gynecologist can render efficient service to the dermatologist.

Turning now to *ophthalmology*, it may not be amiss to mention that there exists two or three fairly large books dealing with the relations of the eyes to the uterus. In fact, vicarious menstruation seems to occur more frequently in the eyes than in any other organ of the body. Gonorrheal conjunctivitis in adults may serve as an example of transmission of a pelvic infection by direct contact. Ophthalmia neonatorum and eclamptic blindness shall merely be mentioned though they would hardly concern us in the work in this hospital.

As far as *rhinology* is concerned, the very intimate relationship between the nose and the genital organs has long been known. The sense of smell is a very powerful sexual stimulant. In animals its importance is paramount. Male rabbits in whom the olfactory nerve has been destroyed experimentally, are unable to find the female. In the human, coition causes acute swelling and secretion of the nasal mucosa, but more often an abnormal dryness. There are many more manifestations of a close connection between the nose and the genital apparatus, but I shall confine myself here only to the consideration of dysmenorrhea. In 1895, Wilhelm Fliess, a rhinologist in Berlin, made the startling announcement that by cocaineizing certain areas in the nose—he called them “genital spots”—he could relieve painful

menstruation almost instantaneously, provided the dysmenorrhea was not due to local causes such as stenosis, tumors, or inflammations. The cocaineization produced temporary relief, while a permanent cure could be brought about by destruction of these genital spots by means of electrolysis or cauterization with trichloroacetic acid. The claims of Fliess have since been confirmed beyond doubt and a close co-operation between rhinologist and gynecologist has been established along practical lines. The gynecologist would, by a thorough examination, determine the nature of the dysmenorrhea and exclude all cases where local causes, such as mentioned above, can be found and eliminated by gynecologic treatment. Where there are no organic causes present, that is, where we have to deal with a so-called essential or idiopathic dysmenorrhea, he will apply cocaine to the nose, and if this cocaine test is positive and the patient is relieved for the time being, he will refer the patient to the rhinologist for cauterization and permanent cure. The majority of these cases occurs in girls and nulliparous women, and as this railroad employs many such persons, there is probably here a wide field for a co-operation of the two specialties.

Even more extensive is the relationship between gynecology and *internal medicine*. I can here touch only on a few definitely established facts.

There is, for instance, the nausea and vomiting that often accompanies menstruation and which, of late, has been explained as a sort of ovarian toxemia. Aside from this effect on the digestive tract which is obviously transmitted by way of the circulation, there is probably also a nerve reflex at times at work. This at least must be the explanation of the sudden belching and nausea which so often accompanies intrauterine irrigations or the passage of the uterine sound through a narrow cervical orifice. Digestive disturbances are very often caused by adhesions, either produced by a pelvic infection or following a previous laparotomy on the genital organs. Vomiting is a common symptom of a twist of the pedicle of an ovarian cyst and clearly due to the resulting peritonitis. Gastric disturbances are often observed in women with retroflexion and usually disappear after replacement of the uterus. It may be argued that the manipulation exerts a suggestive effect, but like others, I have repeatedly observed cases where the patient had recurrences of her gastric distress every time the uterus returned to its faulty position. In view of these and similar observations, of which the literature is voluminous, it would be advisable to request a gynecologic examination when internal treatment of the stomach symptoms has remained unsuccessful.

The coincidence of carcinoma of the ovaries and the stomach is so frequent that it is now a surgical axiom to examine the stomach while operating for ovarian cancer; and conversely, the suggestion has been made in every case of gastric cancer to remove the ovaries even though they appear macroscopically normal.

Hematemesis is occasionally observed after gynecologic operations, particularly if ligations or resections had been made on the omentum. This is a very serious complication in which the gynecologist is greatly in need of assistance on the part of the internist. My own experience is limited to one case in which vomiting of blood occurred after extirpation of a large fibroid and bled to death before I could avail myself of the services of an internist.

The gynecologist will likewise seek the advice of an internist in case of post-operative infection of the respiratory tract such as pleurisy, bronchitis and broncho-pneumonia. The internist on the other hand will have occasion to call in his gynecologic confrère where a marked dyspnea is the result of a large abdominal tumor or ascites. You all know that in tuberculosis, amenorrhea is an early symptom; in fact, it is often the first symptom, and the gynecologist may thus be in a position to refer the case to an internist for timely treatment.

That the organs of circulation stand in a close relationship to the genital system is too well known to require detailed enumeration. The greater vasomotor excitability in women may lead to uterine bleeding or abortion, or, on the contrary, to suppression of the menstruation. In women past the menopause, hypertension is of almost regular occurrence but, though originally physiological, it leads in more than 50 per cent. of the cases to a true arteriosclerosis for which the internist should be consulted. Of the multitudinous contacts between the two specialties in the field of cardiorenal disease I will mention but one instructive case. Less than a year ago a middle-aged woman came to the clinic for operation with the diagnosis of bleeding from cancer of the body of the uterus. There was, in my opinion, nothing to substantiate this diagnosis. Rather did I find, as the cause of the uterine bleeding, an advanced cardiorenal disease for which I sent the patient to an internist.

As regards *surgery*, the close vicinity of the appendix to the right tube and ovary not infrequently gives rise to diagnostic difficulties which may be solved by co-operation between surgeon and gynecologist. Where both organs are involved there is room for nice discrimination as to which of these is the primary seat of infection.

If a young and hitherto healthy woman is suddenly seized with severe pain in the right lower quadrant, the golden rule, that appen-

ditis, ruptured ectopic pregnancy, and pedicle-twisted ovarian cyst, should be thought of in the order named, applies to both specialties. Pain in the left lower quadrant points to the sigmoid as well as to the left adnexa; and here again a consultation between the general surgeon and the gynecologist may be of decided benefit to the patient. In the question, finally, of peritonitis arising from the genital organs, the gynecologist may well profit from the extensive experience of the general surgeon.

The *nervous system* is so intimately connected with most of the gynecologic problems that the up-to-date gynecologist must needs have at least a working knowledge of neurology. Yet, he cannot entirely dispense with the services of an expert neurologist and will often have to consult him in cases of genital psycho-neurosis. On the other hand, the neurologist would do well to avail himself of gynecologic advice more often than is generally the case. For it is an unquestionable fact that many so-called nervous women suffer from gynecologic ailments, usually of minor importance, which, while not directly responsible for the neurotic state, are apt to aggravate the condition and to impede the results of neurologic attention until they are remedied by gynecologic treatment.

In the field of *urology* the connection with gynecology is too obvious for any comment. Disturbances of micturition belong to the most common complaints of gynecologic patients; so much so that the bladder and urethra in the female are legitimately and in all text-books considered as gynecologic organs. It is different with the kidneys and ureters. These organs must be reserved to the genito-urinary specialist. Yet, even here the gynecologist may at times be of great help to the urologist. As an illustration let me cite briefly the following case: An elderly woman was brought to the hospital semi-conscious but groaning with pain, apparently in the left upper abdomen, to which she repeatedly pointed with her hand. The neurologist and internist on service found a tumor on this side, the nature of which was undetermined. A scant, bloody discharge from the vagina observed by the nurse led to a request for a gynecologic examination. I found two very small, soft, wart-like growths in the anterior vaginal wall which could be gouged out with the finger. On microscopic examination I determined in both these small tumors adrenal structure and concluded therefrom that the vaginal growths were metastases of the abdominal tumor and that the latter was a hypernephroma of the kidney. This diagnosis was confirmed at autopsy after the sudden death of the patient a few days later.

Of the field of *proctology* I will mention only

hemorrhoids. Troublesome as they are, let us bear in mind that hemorrhoids are merely a symptom. The primary cause is always elsewhere in the body. Whether this primary cause is cardiorenal disease, a faulty mode of life, constipation, or the like, it must be attended to lest the treatment of the hemorrhoids prove insufficient. Gynecologic diseases are a prolific source of hemorrhoids, and for this reason a gynecologic consultation will often help the proctologist in preventing a return of the old trouble.

The subject of *orthopedics* falls in the scope of this discussion because of the backache which is perhaps the most common complaint in women. The gynecologist should be aware of the fact that in by far the greater majority of cases, backache is due to sacroiliac strain or fatigue of the lumbar musculature. About two-thirds of the cases are, therefore, to be assigned to the orthopedist. The latter, however, must not forget that in the remaining third the cause of the backache is likely to be in some genital disorder for which the gynecologist should be requested to supply the rational treatment.

In this brief review of so extensive a subject I could present only a very incomplete survey, and many more instances of the interrelationship of gynecology with the other specialties have doubtless occurred to you. The point which I wish to stress is this: that in the treatment of the sick women who come to this hospital for help, the department of gynecology may, in many instances, require the support of the other departments. On the other hand, this department may be able to render assistance in some of your problems and will always be in readiness to do so. Requests for consultation will receive my personal attention, and when active service is needed, all members of the department will take equal shares. The closest possible co-operation, therefore, is the plea which I enter in the name of the members of the Department of Gynecology of the Missouri Pacific Hospital.

713 Metropolitan Bldg.

CANCER SURGERY: GENERAL CONSIDERATIONS

E. D. TWYMAN, M.D., F.A.C.S.

KANSAS CITY, MO.

It is proposed to consider to what extent surgical treatment of cancer is justified by its results. It is timely to do this in view of the recent cancer campaign, in view of the unsparing criticism and prejudice to which cancer surgery is subject and in view of numerous

proposals to substitute other means of treatment. The surgery of cancer has suffered from two mistaken attitudes: the first, that it was useless or at best palliative (it has been undertaken in this spirit even by men of considerable experience); the second, that it was easy, something that any surgeon could do in an offhand way. One who has the first conviction should refuse to do cancer surgery as a matter of principle and one who has the second belief should not be allowed by others to do any. Between these lies the earnest efforts of the men who have a reason for the faith that is in them, who try to evaluate the factors both of success and of failure and who welcome any other workers in the field who come to labor in the same spirit.

The successful treatment of cancer is dependent on a knowledge of its origin and character, early recognition, life habits, relative virulence, methods of spread, resistance to destructive agents, reactivation by trauma, mechanism of death from, etc. As our knowledge of these points and many others is defective and fragmentary up to date, our treatments are also necessarily defective. Such knowledge as exists is irregularly diffused.

Origin and character. Cancer is now defined as an autonomous growth of cells springing from progenitors already resident in the body. There is no authoritative opinion in favor of infectious origin. As to heredity it seems advisable to be born a Celonese or a Japanese rather than a Caucasian, so that the eugenicist rather than the surgeon is concerned. Advanced age is a factor in this way: one looks more closely at the cancer areas and gives more radical advice than to a younger person. So one might in a case where the family history contains a high cancer incidence. Chronic infections of a part, chronic irritations from physical, thermal, or light ray traumas—these are decisive localizing factors. They are avoidable and bear on prophylaxis. When demonstrated in the history, they have a value for early diagnosis and indicate prophylactic attack, i. e., early attack.

Early recognition rests largely on experience, personal and statistical. Microscopic diagnosis is the last word. The surgical removal of the piece for section and for cure should be one motion or so close together and done in such a way as not to allow spread or implantation. The greatest handicap of the non-surgical workers is that they produce no tissue for study. Thus their diagnosis in early cases must often remain in doubt. Recognition must be earlier and attack by whatever method must be earlier in order to improve our results. We are now working for the most part on the terminal stages of the disease.

The life habits of tumors must be studied

*Read at the sixty-sixth annual meeting, Missouri State Medical Association, Joplin, May 8, 9, 10, 1923.

individually; first, in relation to the histology and kind of the tumor; second, as to the organ involved. To illustrate:—the undifferentiated anaplastic tumors are highly malignant, infiltrate rapidly and metastasize early. If all cancers were of this kind few cures could be obtained. Fortunately these tumors are in the minority. Cancer is often a local disease, metastases late or not at all, and produces death more by secondary effects such as ulceration, hemorrhage, starvation, absorption of the products of the infection in the mass, etc., than by unrestrained or distant growth. Every cancer is local at some time, if we grant the theory of multiple origin in the same tissue or organ, and all cancers are local within a space limit and within a time limit that is not realized sufficiently, nor advantage taken of the fact by either patients or the profession.

Willie Myer, reviewing his work on cancer, is very sure of the primary localization of cancer and of the adequacy of operation to cure in the breast cases. Judd and Sistrunk, writing on bladder tumors, say that most of them are local and that death is produced by infection and extension of the local growth rather than by metastasis. H. H. Janeway, in advocating the radium treatment of cancers of the cervix, reviews the literature showing 36 per cent of cures of cancer of the cervix and agrees that in a majority of cases this cancer is a local disease until very late in the trouble.

Wm. Mayo was able to show 37.6 per cent of three-year cures in cases of cancer of the stomach, showing that in spite of the lateness of the diagnosis usual to stomach cancer, the disease was still local in a goodly percentage. Jas. R. McVay, now of Kansas City, in a study of carcinoma of the rectum, found that 53 per cent of 100 cases studied showed no involvement of even the immediately adjacent nodes, and 30 per cent had involvement of less than half. Seventeen per cent had involvement of half or more. Renshaw on biliary duct carcinoma, Hayes on carcinoma of the large bowel, Broders on squamous cell epithelioma of the skin, Wilson on tumors of the thyroid, Masson on cancers of the stomach, Bloodgood on cancers of the lower lip, all show a hopeful percentage of purely local involvements, of relatively slow growths and of metastases that are late or not extensive.

In contrast to this are observations on carcinoma of the tongue, Butlin, and on carcinomas of the vaginal wall, Stacey. In the later, the extensions to the iliac glands occur early, there being three routes of lymphatic extension.

Thus we see that surgical failures may be frequently expected in cases where the lymph supply is unusually rich as in the tongue, the cervix uteri and the vaginal wall, the organ

involved governing the prognosis rather than the histology of the tumor.

Taking tumors of the lip for consideration, we find grouping by types done by Broders at the Mayo Clinic and by the staff at the Massachusetts General Hospital to be in agreement about the effect of differentiation on the prognosis. Well differentiated tumors taken early gave 95 per cent, 90 per cent, 81 per cent of cures according to different observers using somewhat different groupings.

The undifferentiated group at the Massachusetts Hospital showed 22 per cent of cures. Broders used a fourth group with no cures at all. This shows the necessity of a microscopic diagnosis of all tumors in order that the approximate prognosis may be made and the advisability of other than surgical treatment considered. There is no data up to date on the question of whether this group of cases, which seem to be cure fast for surgery, are also X-ray or radium fast. Theoretically there seems to be reason for hope that they may be amenable to the rays, and cures be obtained in this otherwise hopeless group. I am making a very consistent effort to cover this point in the material that I see and in about three years I hope to be able to report. In the meantime there is every reason to proceed as if this be true, since obviously nothing can be lost by doing so.

The next decisive factor is the time of the attack. Bloodgood goes so far as to claim 100 per cent cures of cancer of the lip cases excised within one month of their onset. There certainly seems no excuse for delay in cases so easily noticed and so readily diagnosed and removable.

Yet a long period of quiescence should not prevent removal nor deceive the observer; because years of quiescence may be either in the end followed by death from the growth if let alone or by cure if the attack is properly made.

There is no question that insufficient surgical removal, accidental trauma, recurrence after radiation, irritation by caustics or acids, or paste treatment make removal more difficult and lessen the number of cures. Tabulations show the additional mortality attached to these factors. Since other tabulations show about the same additional mortality for cases with more than one group of gland involvements, I am inclined to regard the two factors as identical; i. e., the interference with the growth has spread it out into new layers of tissue and thereby involved new groups of glands and unprepared territory.

The methods of spread are roughly direct extension, lymphatic permeation, embolic lymph or blood metastases, gravity grafts in serous cavities as the peritoneum or pleura, contact grafts as in the gut and bladder walls, and surgical or traumatic grafts.

Spread may be faster in some tissues than others, penetration to deeper layers takes place along lymph or blood vessel lines, it may grow in to bone at such a point. The growth may be in either the afferent or efferent direction, fortunately the lymphatic anastomoses between the superficial and the deep lymphatic distributions is at many places relatively scanty. This gives the surgeon an advantage which shows up, for instance, in the good statistics of cure in surgery of breast cancers, notwithstanding the rapid and extensive permeation of the gland itself.

I had the honor last year of presenting to this society an observation, on the behavior of the lip tumors in the matter of local extension.

To some extent our knowledge of the fact of lymphatic metastasis and our fear of metastasis and our efforts to deal with metastasis have obscured our thinking and interfered with our adequate handling of the much more important problem of the local growth and its immediate extensions or permeations.

The obligation rests upon the one who interferes—that his treatment measure, however destructive of cancer life at the moment, must not do anything to lower the patient's general cancer resistance nor interfere with the mechanism of local resistance.

Surgical interference as a rule has nothing to do with first proposition, whereas the more radical radiologist and deep therapy man are deeply concerned with this matter and must answer it to their satisfaction or be unable to proceed.

With the second proposition surgery is most intimately concerned. If there is failure to remove all of the involved issue with the cold knife we may have broken down the wall of nature's defense, allowing easy invasion of unprepared tissue. If all the gross growth is removed at the sitting, cell implantation of microscopic size may spoil the result if not provided against in the technique. Anastomosis of the involved layer with a deeper lymphatic layer is likely to do still greater harm if not provided against as it shortens the road of the tumor to the deeper organs, much as the Panama canal made the trip around Cape Horn unnecessary.

Finally blood or lymph embolism may occur during operation and should be provided against.

All of these sins have been committed in the name of surgery and we do hereby confess them. To paraphrase the words of the general confession, we have done the things that we ought not to have done and we have left undone the things that we ought to have done.

Yet, the record of surgery has been one of courageous attack upon a disease about which we had insufficient data, and the record is hon-

orable in that our mistakes were confessed as recognized that we learned from them. The record of cures is creditable, all considered.

It is feasible to formulate proposals now, that surgery should provide for the removal in toto of a cancer when still local with a margin of safety. The local lines of spread as well as the metastatic area should be followed out and removed and cell grafting provided against. The hot knife may be necessary in some cases for this purpose. It has the additional advantage of sterilizing and sealing off any new lymph layers that it may open up. Extensions to deeper layers can be followed by this method, periosteal, bone or cartilage attachments can be severed and reduced and the growth can be followed fearlessly even if an unlooked for extension has necessitated the cutting into of the involved area.

We are indebted to Percy for a revival of interest in the use of heat in the treatment of cancer. He recites the early history of its use receding into the dim past and gives much credit to John Byrne of Brooklyn. The extending use of radium has put his work temporarily in abeyance, especially in the cancer of the cervix cases, still there was much good in it. I obtained one seven-year cure in a case of cervical cancer still well, although the growth was infiltrative and otherwise inoperable. Percy places emphasis on the selective action of heat on malignancies, the difference of action obtained by the use of different intensities of heat, the prevention of heat diffusion by carbonization; distance or diffusion effects; the sealing of lymphatic spaces; the prevention of cell implantation; and the deposit of a uniform fibrous tissue bar. These things are valuable and will live.

Many modifications of the methods of application of heat to cancers are now in use and are all to be classed as surgical methods and ought to be used by skilled men only. I refer to fulguration, electrocoagulation, knife cauteries, etc., of which are of use in particular cases. The use of heat effects has extended the range and scope of conservative surgical interference in cancer. It seems that there is experimental evidence that the effect of radium and of ray on cancer cells is accentuated by heat, and the results of combined surgical (hot knife removals) and radium treatment have been most gratifying personal experience. The radium work also should be in the hands of an expert and experienced worker.

The people are so enthused over radium that there is hope they will come earlier for treatment. This will help, as at present all methods are burdened with late, neglected cases whose chance has been lost. Unskillful, overly enthusiastic, and ignorant workers will damage

the cause of radiation just as it has that of surgery.

It seems likely that some classes of tumors will yield equally well to radiation or hot iron, or some other well considered surgical measure, so that the method of attack is more or less optional. As it seems likely that the dermatologists, radiologist and X-ray men are going to see these cases first in the future, it is likely that the surgeon will be called on secondarily rather than primarily as of old. There seems every prospect that a time will be arrived at when dosage and application will be so well settled that nothing but good will come of a preliminary radiation before surgery. The cells which might otherwise implant during removal being at least temporarily rendered incapable of growth.

That brings us to the next class as yet not well defined in which the circumstances of the case indicate surgery as the principal reliance, for the present at least; for example, cancer of the stomach and of the large bowel, and even certain superficial carcinomata which have obtained lodgment in cartilage or have recurred after radiological cure or in scar tissue or in the parotid gland or that have obtained periosteal attachment. In general, surgery succeeds better in the areas of scanty lymphatic supply or where a locally rich supply chokes down to an area of a few vessels or a group of glands. Surgery fails most often in areas such as the tongue, the vagina, the cervix uteri, etc., where the lymph supply is rich and permeating rapidly proceeds in tissue that the knife cannot reach or that cannot be sacrificed. Some other form of attack is most welcome.

In many cases there is every likelihood that combined methods are advisable. I think that there will be some very important classes of cases where the best results seem to bid fair to do better in their hands than the approximately 30 per cent of cures thus far credited to surgery. They may even make good on their present attitude that these cases should not be operated upon even after the clean up, time alone can tell us; the obligation rests upon these men to keep their statistics well and to follow the cases carefully. They will much sooner make their case if they do. My personal belief is that if they have had the case very early and the surrounding tissue not permeated, that a hysterectomy after the clean up might add an additional element of safety, but that in the more extended case the secondary fibrotic changes may have entangled and held relatively quiescent cells which hysterectomy might disturb and liberate. The indication if for anything else would seem to be for additional courses of radiation at later intervals. The conflict between surgery and radium and

X-ray men is more apparent than real. Certainly no one disagrees with the view that the obviously inoperable diffuse growths are better in their hands.

No one wants to take from the radium specialists the basal cell lesions in which they obtain 100 per cent cures without scarring. No one begrudges them a preliminary trial on a doubtful lesion during an observation period which may also prove to be a period of cure. In fact there seems every reason to expect an era of useful co-operation between radiologists and a conservative type of surgeon. This is now being done.

Surgery will avoid some cases on account of the limitations laid down earlier in the paper. It will use methods dictated by these limitations. It will supplement other methods. It will overlap other methods in some classes of cases. And it will continue to serve in some instances where other methods fail. Done in this way the results justify the continued use of surgery in the treatment of cancer.

18th Floor, Federal Reserve Bank Bldg.

THE DIAGNOSIS AND TREATMENT OF CHRONIC DISEASES OF THE NASAL SINUSES

SAM ROBERTS, M.D., F.A.C.S.

KANSAS CITY, MO.

In a discussion of the diagnosis and treatment of chronic diseases of the nasal accessory sinuses, it will prove an aid to better understanding of the conditions about to be considered, if I attempt a classification whereby the various types of sinus pathology may be differentiated.

Classification. A pathological condition existing in a sinus may produce symptoms, either local or remote; moreover, infection may or may not be present. Thus it is convenient to make a general classification of suppurative and non-suppurative conditions. Terms common to our nomenclature, such as hyperplastic, vacuum, hypertrophic and hypotrophic conditions can all be regarded as non-suppurative. The suppurative class will include all the empyemic conditions, both active and latent.

The discussion of treatment will be much better understood if we keep in mind the fact that the principal requirements for a cure are ventilation in the non-suppurative conditions, and ventilation plus continuous free drainage when we are dealing with suppuration.

Diagnosis. Besides the symptomatic and physical findings in the nasal cavity, our chief aids in the diagnosis of sinus disease are the X-ray, trans-illumination and washings from the sinus. The findings from one diagnostic

procedure should check fairly accurately with the others before definite conclusions are reached. In addition, it is well to remember certain anatomical peculiarities which make one sinus more prone to a special disease than another. For example, the nose being the most protruding part of the face, it is especially subject to injury throughout life, beginning with the downward descent of the fetus through the pelvis. Nasal injuries, even though slight, predispose to nasal obstruction and to sinus disease, involving the anterior group, the frontal, the anterior ethmoidal, and the maxillary sinuses. The maxillary and the sphenoid sinuses have their normal opening at almost the highest point in the sinus, hence gravity drainage is impossible which predisposes to suppuration should a causative agent be present.

The maxillary sinus is most often the site of suppuration for three reasons: (1) It has no gravity drainage. (2) It is the only sinus directly affected by dental infections. (3) Being the lowest sinus, it acts as a reservoir for the drainage of all the other sinuses.

The ethmoid sinus is most subject to non-suppurative conditions in the form of bony hyperplasia, because in no other place in the body is the periosteum so exposed to injury and so subject to severe inflammation. With each acute coryza the periosteum—protected only by a thin layer of mucosa—is involved in the inflammation, so that in reality an acute periostitis exists during the course of each "hard cold." These repeated periosteal inflammations eventually lead to bone cell proliferation and hyperplasia.

Vacuum sinusitis is the form of inflammation to which the frontal sinus is most subject, because it has the longest exposed duct, this duct being surrounded on all sides by ethmoidal cells. Then these cells are affected by hyperplasia, there is a gradual narrowing of the lumen and eventually a more or less complete obstruction. Septal deformity, producing pressure against the middle turbinate and the lateral wall, will also predispose to obstruction and vacuum sinusitis.

Vacuum sinusitis is due to a blocking of the ingress of air to the sinuses. The normal residual air being absorbed by the sinus mucosa a more or less complete vacuum results. This, in turn, produces a hyperemic congestion within the sinus, with fifth nerve irritation and its characteristic pain. The pain may vary greatly both in duration and intensity, the patient often complaining only of a slight frontal headache on arising, or a dull heavy feeling above the eyes, which is greatly relieved after being up a few hours or on going out in the open air. In the more severe forms of vacuum

sinusitis the headache may continue throughout the day or even for several days, and be so intense as to incapacitate the patient for all his activities. The fact that the headaches of vacuum sinusitis are worse early in the morning is the reason they are so commonly called "sunrise headaches" by the layman.

Vacuum headaches are worse during the morning hours because during sleep there is a greater congestion of the nasal mucosa and frontal ducts due to the horizontal position of the body. This congestion obstructs the normal ingress of air, that is, proper ventilation of the sinus. When the residual air in the sinus has been absorbed, the pain at any hour of the night may be severe enough to awaken the patient and render sleep impossible for the remaining portion of the night except in a more or less upright position.

When the posterior ethmoid and sphenoid are the site of vacuum sinusitis, the pain is referred to the occiput, starting just back of the mastoid bone, and extending down the cervical region. This is due to involvement of the Vidian nerve with its sympathetic cervical connections.

Vacuum headaches are aggravated by constipation and will be temporarily relieved by a free bowel movement. This often leads the patient to believe that the headaches are of intestinal origin, a circumstance often promoting the cathartic habit. These vacuum headaches are also aggravated at the menstrual period, or sometimes just before the flow begins.

Sluder¹ stated that in vacuum frontal sinusitis, the symptoms are often entirely ocular. He attributes to the fact that the attachment for the pulley of the superior oblique muscle is on the floor of the frontal sinus which is its thinnest wall and during active convergence, in reading or close work, there is a tugging at this point which produces pain in the sensitive floor. Attention was first called to this phenomenon by A. E. Ewing, and it has, therefore, been called "Ewing's point."² It is evidenced by a tender point in the upper inner angle of the orbit, also below and internal to the supraorbital notch.

Vacuum headaches usually improve after the age of forty-five, as at this period of life the nasal tissues normally begin to show atrophy. It is therefore distinctly a "young person's headache."

Hyperplasia of any sinus produces symptoms only when it becomes obstructive to breathing, to sinus drainage, or to the inspiration of air. The ethmoid is the sinus most commonly affected by hyperplasia which may frequently exist without producing any symptoms whatever. Up to a certain stage it is actually a

physiological attempt on the part of nature to produce within the nose an area of greater warming, moisturing, and filtering.

The maxillary, frontal and sphenoid sinuses may be hyperplastic because of repeatedly recurring acute inflammations and radiographically such conditions are difficult to differentiate from latent suppuration.

Chronic suppuration. Symptomatically, chronic suppurative sinusitis is harder to diagnose than the non-suppurative variety. Local pain is an important symptom when present, but it is often entirely absent in the latent cases, and sometimes is absent even in a state of active chronic suppuration. If a distinct mucopurulent secretion is found in the middle meatus on repeated examination it is good evidence that one or more of the anterior group of sinuses may be the site of chronic suppuration. The same condition when found in the superior meatus or olfactory fissure indicates an infection in the posterior group of sinuses, the posterior ethmoid, or the sphenoid.

In these localities, in order to make a satisfactory examination for pus, it is necessary to shrink the nasal tissues by the application of cocaine and adrenalin. The Holmes pharyngoscope can be used to great advantage in searching for pus located in the olfactory fissure or in the upper part of the post nasal space.

In anterior and posterior group suppurations the character of the discharge from each group is quite different. In anterior suppuration there is usually a red streak just behind the posterior pillar. In posterior suppurations the discharge has a tendency to be dry, glue-like and tenacious, so that the posterior wall will have the appearance of having been varnished. This differentiation is not always present, but when it exists it is a valuable diagnostic indication.

Radiographs. Radiography, when properly employed, is the most dependable aid in diagnosing sinus disease, and in localized suppuration especially will be found almost indispensable. It is also the most abused, especially by the medical man. A negative radiograph does no more toward eliminating diseased sinuses as a cause of regional head pain than a negative Wassermann reaction eliminates syphilis in the presence of conclusive clinical findings. There are at least ten cases of non-suppurative sinus disease producing sinus pain which throw no markings on the exposed film to one case of suppuration which produces distinct shadows.

Radiographs should be routinely used in all cases, whether suppurative or non-suppurative, but always with the understanding that negative radiographs rule out only the gross suppurative lesions.

Do not use an X-ray picture which does not show complete detail, or one in which there is any doubt about the proper position for exposure. The roentgenologist's duty ends when he delivers a clear, well exposed film. It is our duty to interpret that film with due consideration for the clinical findings.

All radiographs should be interpreted as clear, cloudy or opaque. A cloudy radiograph, without clinical evidence of suppuration, should be regarded as giving evidence of hyperplasia or possibly only of a thickened intrasinus mucosa. A cloudy radiograph, in conjunction with a clinical history of repeated acute inflammations with discharge of a mucopurulent nature, should be regarded as probably indicating latent sinus suppuration. An opaque radiograph, when mucopurulent secretions have been found in the nose on repeated examination, should be regarded as indicative of chronic sinus suppuration. Stereoscopic radiographs should always be used.

Sinus washings. Sinus washings are of greatest value in the diagnosis of maxillary suppuration, occasionally useful in frontal suppurations, and of some value in sphenoidal suppurations. I employ sinus washings only in doubtful cases.

Transillumination. Transillumination can be used routinely in the office to assist in rendering an immediate opinion. In the more serious cases the evidence gained should be confirmed by the X-ray.

General consideration in diagnosis. When the measures outlined have been utilized and the diagnosis of sinusitis is fairly well confirmed, it is advisable to take certain other factors into consideration. Even a few errors with the corresponding bad results lead one to have a wholesome respect for ocular diseases, syphilis, and dental caries as possible causes of symptoms simulating those of sinus disease. One can often find pathologic conditions in the nose which might be responsible for the symptoms, when in reality that organ is entirely innocent. On the other hand, after other conditions have been eliminated as a cause of symptoms, especially headaches, one is often justified in attempting to afford relief by correction of even minor nasal defects.

We are seldom justified in doing exploratory operations upon any of the nasal sinuses. The one great exception to the rule is when an optic neuritis with progressive loss of vision exists. Other considerations having been eliminated, operative intervention is not only justifiable but is imperative.

Probably our greatest likelihood of error is in the diagnosis of ethmoidal diseases. It is not at all uncommon to see an ethmoid condemned when nothing more than a few polypi

are seen attached in that region. In less than thirteen per cent. of my patients who had polypoid tissue in the ethmoid region has the ethmoid been the primary source of infection. In the remaining eighty-seven per cent, the maxillary or frontal sinuses were at fault. To have operated on these ethmoids would only have been to invite disaster, the original source of the trouble would not have been reached, the patient would have lost valuable nasal tissue, and the suppuration would have gone on with increased vigor. Immediate operation is seldom demanded in chronic sinus disease. A week or two devoted to observation and study of each individual case will often spare the patient years of discomfort.

In acute sinus disease medical treatment is employed almost exclusively, but it is rarely of any value in chronic diseases. Some form of suction or siphonage may occasionally be used in cases where there is a contra-indication to the establishment of permanent drainage.

Vaccines should have a very limited place in nasal therapeutics. The definite aim of all surgical procedure should be the establishment of free ventilation and proper drainage of the sinus with the least possible destruction of the nasal and intrasinus mucosa. It has taken intranasal surgeons several decades to recognize this fact. Only a few years ago the degree of surgical accomplishment was measured as in direct ratio to the amount of nasal bones removed from the patient, these souvenirs thereafter to be bottled, preserved and delivered to him on his leaving the hospital. The ethmoid and inferior turbinate were the chosen battlegrounds, as they happen to be the most accessible to grasping forceps. Whatever symptoms the patient may previously have had, he thereafter had so many more that he went again and again from one specialist to another vainly seeking relief. He was perhaps told that a few cells had escaped the forceps, resulting in the inauguration of an endless series of operations. Cells which were not previously involved now became infected, bringing about the condition recently described by Skillern as "pus everywhere, seeming to come from nowhere."

Loeb,³ of St. Louis, by his extensive anatomical work, has demonstrated the fallacy of even attempting to remove all of the ethmoid cells. They often nearly completely surround the orbit. Practically the only indication I find today to operate radically an ethmoid or sphenoid, is in the presence of progressive blindness due to disease of these cells. The maxillary sinuses can be permanently drained, and fully ninety per cent. of all chronic suppurations completely cured, by an inferior meatal operation. This is accomplished by

raising the inferior turbinate with a smooth blunt elevator and removing the bony wall separating the floor of the nose and the antral floor. The inferior turbinate is then returned to its normal position and healing promptly takes place. After three weeks it is often impossible by the ordinary nasal examination to tell which side was operated, for no exposed nasal mucous needs to be removed. In the three years I have been using this method I have not had to re-operate a single case, nor have I even seen an acute re-infection. The very fact that the sinus is left with a large opening in its floor underneath the inferior turbinate prevents the possibility of a true empyema. When necessary to proceed somewhat more radically the Canfield operation should be done before resorting to any of the sublabial operations.

The frontal sinus presents more difficult problems when we have to deal with some of the chronic suppurations. Vacuum frontal sinusitis and most of the milder suppurations can be relieved by a high septal resection, with the possible removal of the anterior tip of the middle turbinate on one side.

When it is found necessary to remove the tip of the turbinate, if the cut edges are brought into close approximation, healing without scabbing will take place. Often the mere flattening out of a boggy middle turbinate by means of forceps, without removing any tissue, will close up the hypertrophied dilated cells, and the shrinking that follows will cause sufficient reduction to permit free sinus drainage and good nasal breathing.

Should these methods fail to give relief to frontal sinus pain, or the patient should be threatened with intercranial complications, one should immediately proceed with the external frontal operation, abandoning all intra-nasal methods. To attempt to rasp away the floor of the frontal sinus through the nasal cavity invites failure and is hazardous to the patient's life. The granulations incident to operative trauma forming in the floor of the sinus are constantly bathed in pus from above, so that they soon become proliferous and scar tissue is formed, again closing the opening. At secondary operation I have actually seen new bone formation in the sinus floor. This comes about, I believe, because the periosteum has been floated out on the granulations. It was to avoid this complication that I have modified the Lothrop technique⁴ for external frontal operations by using through and through drainage.⁵ Normal saline put in the tube will pass into the sinus and thence down into the nose. It is my observation that the diagnosis of all varieties of sinus affections is being steadily improved, that there is a more prompt recog-

nition of the possibility of their existence, and the exercise of greater care and skill in the interpretation of symptoms. Treatment, likewise, is making an uninterrupted forward progress, and especially in the employment of surgery we are daily seeing the more sane and conservative methods replacing the radical procedures so much in evidence during the past few years.

906-7 Waldheim Bldg.

REFERENCES

1. Sluder, Greenfield: Headaches and Eye Disorders of Nasal Origin. C. V. Mosby Co., 1918 (Chapter I).
2. Ewing, A. E.: Frontal Headaches, Apparently Ocular, but Really Nasal in Origin. Their Recognition and Treatment. Trans. American Ophthalmologic Society, Vol. IX, p. 60: 1900-1920.
3. Loeb, H. W.: Study of the Anatomic Relations of the Optic Nerve to the Accessory Cavities of the Nose. Ann. Otol. Rhin. and Laryngol. 18:243, June, 1909.
4. Lothrop, H. A.: The Treatment of Frontal Sinus Suppuration. Laryngoscope, 27:1, January, 1917.
5. Roberts: Transactions of American Academy of Oph., Oto-Laryng., 1923.

ANESTHESIA IN MINOR SURGERY

REINHARD E. WOBUS, M.D., F.A.C.S.

ST. LOUIS

In major surgery ether has practically become the standard anesthetic in this country. While frequently preceded or even replaced by nitrous oxide, it is almost universally employed, even though it is being partly superseded by local anesthesia in many centers. In minor surgery we have the choice of several methods, each having its advantages and its advocates. Moreover, since one or the other of these methods is always applicable, there is no excuse for inflicting unnecessary suffering on our patients. No modern dentist would think of extracting a tooth without some form of anesthesia and there is no reason why a surgeon should repair a wound or lance an abscess without mitigating the attendant suffering. It is both barbarous and inhuman and altogether inexcusable. Still more important, it permits more exact and thorough work. A quick stab into an abscessed breast will effect only incomplete drainage and frequently has to be repeated, while the administration of a general anesthetic permits an adequate incision and digital exploration and, consequently, results in prompt cure with the minimum destruction of tissue.

A satisfactory anesthetic for the many little surgical procedures which we encounter in daily practice must be simple enough to be administered not only in the hospital but in the office or even in the patient's home. Moreover, it must be safe, for we have no right to jeopardize the patient's life in order to save him suffering.

Local Anesthesia. The proper application of local anesthesia is an art. It requires a certain amount of experience for its perfection. It is, however, not so difficult that it cannot be mastered by any practitioner by the application of a little painstaking attention to details and a liberal amount of common sense. A one-half to one per cent. solution of novocain with or without the addition of adrenalin has become the standard. Special care should be exercised in making the first injection, for which a fine needle should be employed. The rest is comparatively easy. The cause of failure is usually insufficient infiltration combined with haste. It takes at least several minutes until the anesthesia is complete. Local anesthesia of some sort is preferable in most minor operations. As the technic is mastered its field of usefulness is gradually extended. In operations on the fingers and toes, including the lancing of felons and amputations, it is especially useful as the entire member may be encircled proximal to the lesion, thus producing complete anesthesia. In the removal of superficial tumors and of hemorrhoids it is usually applicable. Its only disadvantage is the burning sensation which comes on after the anesthetic has been absorbed and which is due to distension of the tissues by the fluid.

There are a few contraindications which limit its use, chief among which is inflammation. It is absolutely impossible to anesthetize an inflamed area by infiltration, since the distention by the fluid increases the pain. Besides, there is danger of spreading an existing infection. It is also contraindicated in children and very nervous individuals in whom the dread of the needle causes fright or mental suffering.

Nitrous Oxide. Next to local anesthesia, the combination of nitrous oxide and oxygen is without question the best anesthetic for short operations of any sort. It is quite safe, rapid in action, and the patient revives promptly without any unpleasant after effects. Its only disadvantage is the fact that a special and somewhat bulky apparatus is required as well as some experience in its administration.

Ethyl Chloride. The employment of ethyl chloride in freezing an abscess before incising it is a method which fools the surgeon but not the patient. The freezing itself is painful, the anesthesia produced superficial, and the reaction familiar to anyone who has suffered from frostbite. Furthermore, freezing is an added trauma which further devitalizes tissue and therefore retards healing. It has been suggested to encircle the inflamed area but this is also only partly successful.

Ethyl chloride has become quite popular in late years as a general anesthetic. It was used

extensively by the Germans during the late war for operations of short duration as well as the changing of painful dressings. It produces anesthesia with surprising rapidity, the patient revives promptly, and its application is exceedingly simple. A dozen layers of gauze are placed over the patient's nose and mouth and, while he raises one hand, the drug is sprayed on the gauze. After a minute or so his hand drops and anesthesia is complete. Since recovery is very prompt, more of the anesthetic must be given if the procedure requires more than a few minutes.

When of short duration ethyl chloride anesthesia seems reasonably safe. There have been reported, however, especially in the German literature, numerous cases where unpleasant results and even death have resulted from its administration even for short periods of time. Luke figures one death to 36,000 narcoses, while Lotheissen, who introduced its use in surgery and is one of its chief advocates, had one death since 1903, during which time he administered it 1,700 times. While some of these deaths were probably due to other causes, the use of ethyl chloride has lost some of its popularity and its use is unqualifiedly condemned by a number of authorities. At any rate, it should be used with caution and only for narcoses of short duration.

Ether Rausch. For some reason this splendid form of anesthesia has not achieved the popularity in this country which it deserves. It was introduced simultaneously by Sudek and by Kronacher 22 years ago. Since that time not a single death from its use has been reported. It is simple in its application, prompt in action and can be administered by the nurse or even an untrained assistant. Its only drawback is the fact that it sometimes produces a sense of suffocation. Relaxation is not always complete, wherefore the patient may be more or less restless in some cases. In spite of this, however, he will assure you afterward that he experienced absolutely no pain.

Ether Rausch is administered in the following manner: The room should be quiet and all talking avoided. A closed mask of some sort is used—an old felt hat makes an excellent mask. A small sponge or a piece of absorbent cotton is stitched into the top of the mask (hat). After applying vaseline to the face and placing a towel over the eyes, the sponge or cotton in the mask is saturated with ether—15 to 30 c.c. will usually suffice. The mask is immediately placed over the patient's face, *lightly at first*. After a few breaths, it is firmly applied and a towel placed around its edge. It is well to have the patient count slowly. When he becomes confused or stops counting, which takes a minute or two, analgesia is

usually complete and the operation is promptly performed, as the patient usually awakens after from 4 to 6 minutes. If necessary, the procedure may be repeated. Moscovics has kept patients in Ether Rausch for from one and one-half to two hours.

Cotton Process Ether. It has long been known that some brands of ether act more promptly than others. Since all ethers contain impurities, the question arose whether, perhaps, the impurities were responsible for the superior anesthetic qualities of certain ethers. Upon investigation it was found that some of the purest products were the least desirable as anesthetics. The question next suggested itself whether absolutely pure ether could be used as an anesthetic at all. Stehle and Bourne, however, produced pure ether synthetically which was found to be quite satisfactory as an anesthetic. Cotton, of Toronto, who made exhaustive studies of the pharmacology of anesthetic ethers, found that those containing the greatest amount of certain synergistic gases, especially ethylene, not only produced *anesthesia* more promptly, but produced *analgesia* without complete loss of consciousness. He, thereupon, saturated ether with these gases.

Cotton process ether has been used by dentists for several years. Since analgesia is produced before loss of consciousness, it is not necessary completely to anesthetize the patient unless a number of teeth are to be removed. I have seen teeth extracted under its use, the patient smiling and talking during the whole performance. For several years I have employed this ether in office practice, especially in lancing boils and carbuncles, and have found it very satisfactory. A light anesthesia is produced by the ordinary open method in from one to three minutes, from which the patient awakes without nausea after from 3 to 10 minutes more, depending upon the depth of the anesthesia. It is advisable to push the anesthetic in order to produce the desired result in a very short time. In this way the minimum amount of ether is used and the patient revives more quickly. As an example of the speed with which it works, I will cite a typical case. Dr. Wells, a dentist who shared my office, had to extract nine teeth from a very nervous woman, so he asked me to give her the ether. From the time the anesthetic was started until the last tooth was out consumed exactly five minutes. In another five minutes or so, she was ready to go home, having experienced absolutely no pain.

To summarize: In minor surgery, *local anesthesia* is preferable except in operating on inflammatory lesions, in children and very nervous individuals.

Of the general anesthetics, *nitrous oxide*,

when administered by a trained anesthetist, is the anesthetic of choice; *ethyl chloride* is prompt and effective but not altogether without danger; *Ether Rausch* is always available and absolutely safe; Cotton process ether is rapid in action, apparently safe and, in our hands, has proved to be an ideal anesthetic for minor surgical procedures.

Metropolitan Bldg.

TRAUMATIC RUPTURE OF THE NORMAL SPLEEN.

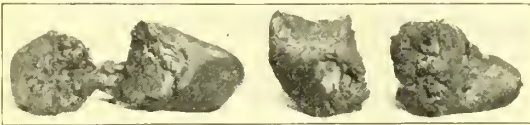
With a Report of Two Unusual Cases.

H. K. WALLACE, M.D.

ST. JOSEPH, MO.

Traumatic rupture of the normal spleen, although not a frequent accident is not unusual enough to be of any great interest. However, the two cases herein reported are I think sufficiently rare to be of interest.

The first case, a girl, age 13, was admitted to the hospital with the history of the day previous having fallen from a tree to the ground, a distance of about six feet, striking on her left side. She was picked up by her playmates and carried home. When seen a short time afterwards by her family physician, was pale and in severe shock, with a rapid, weak pulse, air hunger and complained of pain in left lower chest, left side of abdomen and left lumbar region. She reacted somewhat from her shock but continued to complain of pain severe enough to require morphine. Pulse continued rapid and weak and she passed bloody urine. Enemata had been given with no results. The day following the accident she was brought to the hospital, a distance of 65 miles. Physical examination on admission: well nourished girl; skin and mucous membranes quite pale; no external signs of injury; head and throat negative. Chest: respiration rapid and shallow, entirely costal. Heart rapid and rather weak, no murmur. Abdomen: moderate distention, rigidity over left side, more marked in upper abdomen, marked tenderness



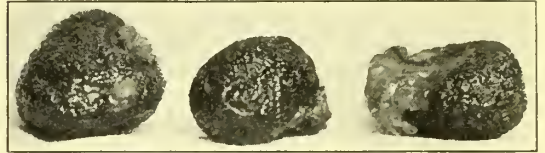
Case 1. Segments of kidney to left. Segments of spleen to right. About one-sixth actual size.

under left costal margin and in left lumbar region. No fractured ribs. Peristalsis absent. Extremities negative. Rectal examination negative. A small amount of urine was obtained by catheter; the urine contained blood. Pulse 120. Temperature 99. Patient was immediately sent to operating room with the diagnosis of a ruptured abdominal viscus and probable injury to the left kidney.

Operation: Ether anesthesia. Right rectus incision. Peritoneum contained about one pint of dark blood and clots. Bladder examined and found uninjured. Incision enlarged upwards and spleen palpated, found ruptured in two almost equally sized pieces. Pedicle rather short; it was clamped and ligated and spleen removed. A large blood clot was seen behind the peritoneum in left kidney region.

Posterior peritoneum incised external to the colon and many clots removed. The upper pole of the left kidney was found completely torn off. Kidney pedicle clamped and ligated and kidney removed. One piece of gauze packed into left kidney pouch and wound closed to drainage. Seven hundred c.c. of salt solution given in the vein and 500 c.c. of blood given by the citrate method, on the table. Patient reacted well and made an uneventful recovery, leaving the hospital at the end of 14 days. Six months later patient was in perfect health and attending school.

Case 2. Female, age 40, widow, admitted to the hospital with the diagnosis of chronic cholecystitis. She complained of pain under right costal margin and under right shoulder. Her trouble began two



Case 2. Segments of spleen. About one-half actual size.

years previous when she was struck in the right side of her chest and abdomen by a baggage truck. Following this injury she says she had very severe pain in right side and abdomen and under her right shoulder; was taken to a hospital where it was necessary to administer morphine hypodermically for the pain. Says her chest was strapped and she was told she had some broken ribs. Says she was very sick and remembers very little that happened the first few days she was in the hospital; she remained in the hospital for about three or four weeks and was very weak when discharged. Since her discharge from the hospital, has complained of constant pain under right costal margin and in right lumbar region and under right shoulder. This pain at times required morphine for relief. There was no nausea or vomiting or jaundice. No indigestion. Says she thinks she passed some blood in her urine for about two weeks following the injury. Has been unable to work since her injury. She was first seen by us about three months before her operation. Physical examination at that time showed a well developed and nourished woman, skin clear and of good color. Head negative. Mouth: several crowned teeth. Throat and tonsils negative. Chest: lungs clear. Heart is negative except the right border is about 2 cm. to right of right border of sternum, apex beat not palpable or visible. Abdomen: flat; tenderness and slight rigidity under right costal margin. Old median line scar. No masses detected. Extremities negative. Vagina: cervix small. Uterus not present. Blood pressure 150-90. Urine negative. Blood, hemoglobin 85 percent. R. B. C., 3,840,000, W. B. C., 13,800. Polys, 74 per cent. Eosinophile, none. X-ray of teeth revealed no apical abscesses. At this time she was suing the company for whom she had been working when injured and as we could make nothing definite from our examination, she was given a prescription and no surgical procedure was advised. Between that time and her operation she returned several times complaining of the same symptoms and requesting an operation. She became so insistent that we agreed to do an exploratory with the provisional diagnosis of gall-bladder disease.

Operation: Gall-bladder incision. On opening the peritoneum many adhesions were encountered between the stomach and large bowel and the under surface of the liver, which lay very high. Gall-bladder could not be located. In separating the ad-

hesions, which were very dense and very numerous, a hard, firm mass was felt deep down under the liver, buried in adhesions and stuck to the posterior wall; this was delivered, a small blood vessel ligated, and mass was removed. On section it looked like splenic tissue. Three other similar pieces were removed. None had any definite blood supply other than small vessels running through the surrounding adhesions. The left upper abdomen was examined for spleen and not found. Adhesions were further separated and the pylorus was found to be on the left side, stomach being completely reversed. Gall-bladder also on the left, lying in its normal relation to the liver, the large right lobe of which was on the left. Cecum lay in the left iliac fossa and sigmoid on the right. A moderately inflamed appendix removed in the usual way. Pelvis examined: Uterus had been removed at a previous operation. There were practically no adhesions in the lower abdomen and pelvis. One cigarette drain inserted into the right kidney pouch and wound closed. Patient made an uneventful recovery. Microscopic examination of the tissue removed showed it to be splenic tissue with considerable atrophy and fibrous tissue infiltration. Fluoroscopy of the chest showed the heart on the right. Two months following the operation, patient was back at work feeling much better although she complained of still some soreness in the scar. (See foot note.)

Although there are cases of congenital anomaly of the spleen I can find none that correspond with this one, and from the history, the presence of such dense and extensive adhesions, the small blood supply and the atrophy of the splenic tissue removed, I feel justified in assuming this to be a case of spontaneous recovery of a ruptured spleen, in a case of complete transposition of thoracic and abdominal organs.

In looking over the literature I can find no parallel case to either of the two reported above.

Porter reports a case (*Journal Royal Army Medical Corps*, 1908) of a ruptured left kidney and a slight tear in post edge of spleen, discovered at autopsy, resulting from the kick of a horse.

Johnson (*Surgical Diagnosis*) speaks of one case in which the spleen and right kidney were ruptured, the patient having been run over by a wagon. He does not state what was done at operation or what the outcome was.

Keene reports eleven cases of gun-shot wounds of the spleen and left kidney.

Brogsitter collected 203 cases of rupture of the spleen treated surgically, with a mortality of about 35 per cent.

Barnes, 1914, collected from the literature since 1909, thirty cases, and one of his own, in which splenectomy was performed twenty-six times with a mortality of only 7.6 per cent.

Since Barnes' paper, Willis reports four cases of his own (*Surgery Gynecology and Obstetrics*, July, 1919, Vol. 29) and collects 53 other cases, making a total of 57 cases.

NOTE: Her law suit was settled a few weeks before the operation.

Splenectomy was performed on 55 of these with a mortality of 28.88 per cent.

Willis lays stress on the following points: Leucocytosis and anemia, no external evidence of injury, rigidity and tenderness of abdomen, agonizing pain in left shoulder. In two of his cases operation was followed by direct blood transfusion with very gratifying results. All his cases showed shock following splenectomy.

In one of Willis' cases, and several experimental cases on dogs, anemia following operation was out of proportion to blood lost. This he attributes to the loss of the spleen and suggests transfusion as a prevention.

We feel sure that transfusion following the operation was life saving in our first case.

The second case proves that occasionally a case of rupture of the spleen will recover spontaneously.

However, we believe any case diagnosed or suspected should have immediate operation, followed by direct blood transfusion.

301 N. 8th Street.

INFESTATION WITH FILARIA LOA.—A case of filaria beneath the conjunctiva and microfilariae in the peripheral blood stream is reported by Howell L. Begle, Detroit (*Journal A. M. A.*, May 7, 1921). Three years have elapsed since an adult worm was removed from beneath the conjunctiva. While no other adult parasites have made their appearance, whenever the peripheral blood has been examined the microfilaria has been found. Since the patient went to Nigeria in the spring of 1906 and remained there until the fall of 1909, it is apparent that the infestation with this parasite is now of from twelve to fifteen years' duration.

REMEDY FOR PROFESSIONAL UNREST.—Some of the factors of the problem presented by the unsatisfactory relationship between the medical profession and the public are discussed by H. C. Macatee, Washington, D. C. (*Journal A. M. A.*, March 25, 1922). He believes that the concrete things that seem to underlie these troubles are: (1) the various manifestations of what has come to be known as "state medicine," and (2) the extraordinary growth and popular endorsement of the healing cults. To overcome these he recommends adoption of the policy of service.

TULAREMIA FRANCIS 1921 DEVELOPING IN A LABORATORY WORKER.—In the case reported by John J. O'Malley, Washington, D. C. (*Journal A. M. A.*, April 8, 1922), the patient was engaged from Sept. 10, 1920, to Oct. 23, 1920 (the date of onset of illness), at the Hygienic Laboratory of the U. S. Public Health Service, in investigations of several strains of *Bacterium tularensis*, isolated by Surgeon Edward Francis of the United States Public Health Service, from human cases of tularemia in connection with his investigations of this disease in man in Utah. In carrying out the details of this work, the patient inoculated and performed necropsies on a large number of animals, and he was probably more or less exposed to infection through the skin or through the respiratory passages many times.

THE JOURNAL

OF THE

Missouri State Medical Association

JANUARY, 1924.

EDITORIALS

FIRST INDICTMENT AGAINST DIPLOMA MILL CONSPIRATOR

Dr. Robert Adcox of St. Louis, one of the conspirators in furnishing false medical school diplomas and high school certificates, was indicted by the St. Louis grand jury, December 11, on the charge of bribery. The indictment followed the appearance before the grand jury of B. H. Jolly, superintendent of Schools, St. Charles County, who has confessed that he sold high school certificates to Dr. Adcox. The grand jury returned the indictment within 30 minutes after Jolly had given his testimony.

CHIROPRACTOR CONVICTED

H. L. Gordon, a chiropractor at Princeton, was found guilty of the charge of practicing medicine without a license and fined \$50 December 14, 1923. The jury spent the entire night in arriving at their decision. This case presents some very interesting points which might profit other communities in prosecuting chiropractors. After the case had been turned over to the jury they deliberated until six o'clock in the evening, when they sent for Circuit Judge L. B. Woods, before whom the trial was conducted, and told him that they could not reach a decision, the vote standing at that time 6 for and 6 against conviction. Judge Woods told them to continue balloting. At ten o'clock that evening they called for him again and reported their belief that they could not agree on a verdict, the ballot then standing 8 to 4 for conviction. The judge again declined to accept their report and informed them that they would be locked up for the night, indeed, until they did arrive at some sort of a verdict. The jury remained locked up for the night and returned a verdict of guilty next morning.

This case was evidently clearly presented and the jury so definitely instructed on the points of the law at issue that they could not avoid bringing in a verdict, and only one verdict was possible—that of guilty. The court must have shown the jury that they could not consider any evidence whatsoever except the one charge, that of practicing medicine without a license. Prosecuting attorney William Hickman was assisted by attorney J. E. Powell, of Princeton,

while Gordon was represented by F. W. Coon, of Kansas City, and David S. David, of Oskaloosa, Iowa. Usually the attorneys for the chiropractors endeavor to sway the sympathy of the jury by producing witnesses who claim to have been much benefited through the administrations of the chiropractor and at the same time pretend that chiropractors are not practicing medicine. It is evident that the county prosecutor and his assistant did not permit the jury to lose sight of the main point at issue and did prove that Gordon was violating the statute requiring all persons who attempt to heal the sick to secure a license from the State Board of Health. An interesting sidelight on the case is the rumor that Gordon was insured against indictments of this nature in an organization conducted by the chiropractors, but that the company had gone into the hands of a receiver a few days preceding this trial and, therefore, Gordon was compelled to pay the expenses of the suit and his fine. There are a number of other cases pending against Gordon, but they will be held in abeyance by agreement with the attorneys on condition that Gordon ceases to practice in Mercer County.

SPECIAL ELECTION FEBRUARY 26 TO VOTE ON CONSTITUTION

Every member of our Association should be interested in the amendments to the Constitution of the state submitted by the Constitutional Convention. There are twenty-one amendments and as citizens we are affected by each one. As physicians our principal interest is in Amendment No. 5, which requires the General Assembly to provide for the safeguarding of the health of the people. The amendment reads: "The General Assembly shall provide means for the safeguarding and promotion of the public health and welfare."

The amendment will not appear in that form on the ballot, but will appear as follows:

AMENDMENT No. 5.

"To amend Article IV by adding Section 58 thereto.—Requires the General Assembly to provide by law for the safeguarding and promotion of the public health."

On another page we print a sample ballot for amendments.

Every member of our Association will, of course, vote for Amendment No. 5, but since the Constitutional Convention has submitted 20 other amendments and because all of them should be understood by physicians in order that they may cast their votes intelligently, we present the arguments in favor of the adoption of these amendment as promulgated by the

Association for Constitution Amendments in a pamphlet recently issued by that body. This pamphlet is entitled, "The ABC of the Twenty-One Constitutional Amendments," from which we quote:

"All of the twenty-one amendments are important, but some of them are more important than others. Some of the most important amendments are amendments numbered 4, 6, 7, 9, 11, 12, 13, 14, 15.

Amendment No. 4 provides funds to complete the payment of the soldiers' and sailors' bonus. You know the people of Missouri voted \$15,000,000 as a bonus to its soldiers and sailors who fought for America in the World War. That money was paid out but there was not enough of it to make payments to all the soldiers and sailors. The Convention did not think it was right that some should receive a bonus and others not receive one and they found that all would be paid equally if we raised \$4,600,000 more, and if we vote "YES" on this proposal then all the soldiers and sailors will get their bonus.

Amendment No. 6 is one of the most far-reaching of all the proposed amendments. The business of government in Missouri has grown so great that the machinery of government no longer fits. The members of the Convention found that the business of our government is being handled in a very unbusinesslike way and they propose to change that by simplifying it and by putting all the business of the State into twelve departments. The Convention found that there were at least 73 departments transacting the business of Missouri and that this was resulting in overlapping of work and in the loss of much money. The other principal change made in this amendment provides for what is known as a budget plan. That means that before the Legislature begins to spend the money of the State it will have a budget before it, which will be prepared by the Governor. That budget will contain a full statement of all the expected revenues and all the needs of the State and the Legislature will not be permitted to increase any of these estimates. This budget must be presented to the Legislature within fifteen days of the time Legislature convenes. That will give the Legislature ample time to transact this important business and will not leave it for them to complete on the last day they are in session.

Amendment No. 7 proposes to simplify and unify our Courts and enable them to keep up with their work and to provide for rules by which that may be done.

Q. Is Amendment No. 7 finding favor among those who are giving thought to it?

A. Yes. The Journal of the American Judicature Society for December, 1923, says that if

the people of Missouri adopt Amendment No. 7 then we will have the best system of courts in any state in the Union.

Q. Are there any objections being made to this Amendment No. 7?

A. Yes, some of the lawyers object to it, but we believe that some of those lawyers who are objecting to it are thinking more of law than they are of justice. It is understood also that the railroads in Missouri are objecting to it because it increases the jurisdiction of our Courts of Appeals.

Q. What do you think about it?

A. We think that certain, speedy and inexpensive justice will more surely result if this amendment is adopted. [All the judges of the Supreme Court object to the passage of Amendment No. 7.]

Amendment No. 9 provides that no foreigner can vote in Missouri until he has obtained his final naturalization papers. It also provides that the ballot boxes can be opened when there are violations of the election laws involved.

Amendment No. 11 provides for local self-government for all cities of the first, second and third classes provided those cities have charters. The present Constitution fails to give this local self-government in the way this amendment does. This means that every city in the State which has 3,000 people or more can have its own charter and can run its own local affairs without interference by the Legislature.

Amendment No. 12 relates to taxation and places the limits for taxation upon the taxing powers of the State. It also provides for a revolving fund, which if adopted will save the City of St. Louis alone more than \$500,000 a year, and corresponding savings in other cities. It also provides that property which is devoted wholly to religious, charitable and educational work shall not be taxed.

Amendment No. 13 permits the General Assembly to classify all kinds of property for purposes of taxation. Amendment No. 13 also provides that automobiles shall be subject to license taxes in addition to the general property taxes paid on automobiles. Unless this amendment is adopted there will be a serious question in Missouri whether automobiles can be taxed as other property is taxed. In 1922 our Constitution was amended on this subject and many lawyers in the Convention doubted whether the amendment of 1922 retained the property tax on automobiles.

Q. Can property not be classified under the present Constitution.

A. No, all property in Missouri is in the same class for purposes of taxation under the present Constitution and a great deal of property escapes taxation because of that.

Amendment No. 14 abolishes the present State Board of Equalization. This Board is supposed to equalize taxes in the State, but its members are not elected for that purpose. Their real business at Jefferson City is to act as Governor, State Auditor, State Treasurer, Secretary of State and Attorney General and they are not elected as experts on taxation. The Convention thought that while they were abolishing so many Boards they should abolish this one also. We already have a State Tax Commission and the Legislature can allow that Commission to transact its own work and the work of the Board of Equalization as well.

Amendment No. 15 abolishes the present Board of Education, which consists of the Superintendent of Public Schools, the Governor, Secretary of State and the Attorney General. The members of the Convention did not think that the Governor or the Secretary of State or the Attorney General were experts in education and they thought also that they were elected to attend to other business. In place of that Board there will be a State Board of Education consisting of six members who will be elected by the people. There will probably be two of these elected every two years, so that no one political administration will ever control the Board of Education. This amendment also provides that the new Board of Education can appoint a Commissioner of Education. The Convention thought that such an officer should be appointed by a State Board rather than elected. There is nothing political about education and the man who is fit for that job ought to hold it as long as he is competent to fill it.

Amendment No. 1 permits religious bodies to incorporate and simplifies the technical form of indictments; Amendment No. 2 gives us a model form for the initiative and referendum; Amendment No. 3 provides that pensions may be provided for disabled firemen and policemen, and simplifies the powers and duties and pay of the members of the General Assembly and authorizes a workmen's compensation law; Amendment No. 5 requires the General Assembly to provide public health laws; Amendment No. 10 permits the Legislature to provide for primary laws and for conventions to nominate candidates for office and then permits political parties to take their choice; Amendment No. 18 prohibits public officials from appointing their relatives to office; Amendment No. 19 is a special provision that the people of Kansas City were very anxious to have and provides for bond issues in that city.

FUND FOR ST. LOUIS MATERNITY HOSPITAL

An endowment of \$650,000 has been appropriated to the St. Louis Maternity Hospital by

the General Education Board founded by John D. Rockefeller. The donation is contingent upon the erection of a new building for the hospital to cost \$500,000, to be paid for by subscriptions from other sources. The St. Louis Maternity Hospital is affiliated with the Washington University Medical School and will be a part of the group of hospitals connected with the medical school for teaching purposes. It is intended to extend the activities of the Maternity Hospital by establishing facilities for research work in obstetrics and diseases of children. Undoubtedly this work will result in a development of measures to reduce the mortality in maternity cases and in infants.

When the hospital is finished and the endowment fund becomes available, St. Louis will be unsurpassed as a center for study in obstetrical work. The hospital will continue caring for pay patients and those unable to pay for treatment, as has been the custom during its existence.

CONGRESS ON INTERNAL MEDICINE.

As announced in our December issue, the American Congress on Internal Medicine and the American College of Physicians will hold the eighth annual convention in St. Louis, February 18-22. On another page in the advertising section of this issue appears the announcement of the physicians and guests who will address the meeting on various topics. The outlook for a large and enthusiastic gathering is encouraging. A total of twenty-six hospitals in St. Louis have been organized into a group where 170 clinics will be held on numerous subjects. There are 80 addresses scheduled on special work and research investigation, and at this time there are over 500 reservations by members and guests. The indications point to an attendance of over 2,000. All physicians who are members of their county medical societies are invited to attend, whether or not they are members of the Congress.

The clinical material in St. Louis has, for a long time, been well organized through the work of the St. Louis Clinics, and the splendid response of the leading members of the profession in St. Louis giving their time and effort to the promotion of the clinics and the success of the Congress promises to emphasize the usefulness and importance of the clinical facilities of St. Louis so impressively as to leave no doubt of the teaching value of the wide variety of diseases that may be profitably studied during the Congress. All members of our Association are invited to be present during this very important week of clinics in February. Hotel Chase is the headquarters.

NEWS NOTES

DR. JOHN LUTHER REICH, of Altamont, was married to Miss Anna Belle Boyd on December 15, 1923.

DRS. WILBUR SMITH, Wallis Smith and Robert Glynn, of Springfield, have formed a clinical group with complete facilities for diagnosing medical and surgical cases. The offices of the group are located in the Holland Building.

NEWS dispatches from Liberty, Mo., state that the Clay County grand jury has indicted 16 persons presumably for practicing medicine without a license. Most of the evidence in the cases was obtained through Clay County Medical Society.

DR. MARTIN F. ENGMAN, of St. Louis, has received notification that he was elected a corresponding member of the Danish Dermatological Association on December 9, 1922. Earlier in the year 1922 Dr. Engman was elected a corresponding member of the Societe Francaise Dermatologie et de Syphilologie.

THE East St. Louis Health Department, with the assistance of the Illinois Department of Registration and Education, has started a campaign against illegal practitioners of medicine. Two chiropractors have been arrested for practicing medicine without a license and a warrant has been issued for the arrest of a man who has been practicing medicine but holds no license to do so.

CHARLES V. ECKERT, a druggist of St. Louis, was tried in the Federal Court on the charge of selling 200 quarter-grain tablets of morphine to a drug addict. During the testimony at the trial it is said that other addicts related to the court that they had obtained large quantities of morphine and cocaine at Eckert's drug store on prescriptions written by Dr. Thomas S. Manning, who has been convicted and sentenced to fifteen years in the penitentiary for drug law violations.

THE Board of Aldermen of St. Louis are considering an ordinance authorizing the Hospital Commissioner to require patients admitted to the City Hospital to pay \$2.20 a day for their care when it is found that the patients are able to do so. The St. Louis Medical Society took cognizance of the ordinance and requested the Hospital Commissioner to explain his provisions at a meeting of the society held December 18. This was done and a lengthy discussion followed. A committee was appointed by

the medical society to confer with the Hospital Commissioner and he was requested not to push the passage of the ordinance until after such conference.

DR. DAVID PRESWICK BARR, of Cornell University, has been appointed Busch professor of medicine in Washington University Medical School and physician in chief to the Barnes Hospital. The appointment will become effective February 1, but Dr. Barr will not assume active duties in the school until September. He now holds the position of assistant professor of medicine at Cornell University and visiting physician of Bellevue Hospital. He is also a research fellow in the Russell Sage Institute of Pathology and has carried out many pieces of investigative work in this department. He will devote his full time to his duties at Washington University.

THE following articles have been accepted by the Council of Pharmacy and Chemistry:

Cutter Laboratory:

Anti-Anthrax Serum for Human Use-Cutter.

Diphtheria Toxin-Antitoxin Mixture-Cutter.

Diphtheria Toxin for the Schick Test-Cutter.

Rabies Vaccine-Pasteur (Cutter).

Tetanus Antitoxin for Human Use (Concentrated)—Cutter.

E. R. Squibb and Sons:

Diphtheria Toxin-Antitoxin. 0.1L+.

Winthrop Chemical Company:

Elixir of Veronal.

THE present diploma licensure scandal in Connecticut is fortunate in that it has turned attention to matters in which the public and public officials particularly have not taken sufficient interest. In the midst of all the tumult, the comment of the Marietta (Ohio) *Times* appears like a ray of light in an otherwise somber situation. The editor says:

"In a profession given to quackery, quacks would attract little attention. The counterfeiting of medical diplomas is in itself a tribute to the medical profession. Counterfeiting implies that the established currency is sound. So it is with this great profession. All the more reason, therefore, why the profession itself should make every effort to eliminate the quacks, and why the public should help by informing itself of every doctor's medical pedigree and ostracising the occasional pretender or crook.—*Jour. A. M. A.*, Dec. 8, 1923.

DR. JOHANNES FIBIGER, professor ordinarius in pathological anatomy at the University of

Copenhagen, has demonstrated, following repeated experimentation, that parasites play an important role in the formation of certain types of tumors in the proventriculi of rats.

Furthermore, he has succeeded in effecting papillomata and undoubted carcinoma through the parasite nematode. Where others have failed after years of persistent researches, he first met with success in artificially inducing malignant tumors through external irritations and so thrown wide new avenues to future findings. Though the earlier results of Fibiger's work date back a number of years, he unremittently labored towards an interpretation of the significance of parasitic irritants in malignant tumor formation, likewise of mechanical and chemical irritants. Fibiger and his associates have contributed generously to the literature of cancer production through the feeding to rats of oats and the application of tar to their tissues. In this way they have confirmed the successful work of Stahr and Yamagiva.

In a word, Fibiger's advances towards the solution of the problem of the causative irritants productive of cancer are at the same time most comprehensive and most remarkable.

For this work Dr. Fibiger has been awarded the Sofie A. Nordhoff-Jung Cancer Research Prize.

BOOKS FOR LEISURE MOMENTS

*Reading with discrimination broadens the mind
and strengthens the mental grasp*

ALL sorts of books are written today in candid expression of the inner lives of outstanding figures in history—in fact, the modern study of a celebrity is considered not at all worth while unless his physical and mental parts are laid bare, so that the public may know what sort of man was responsible for the tragedies in certain rather black chapters in history. According to our older historians or essayists, modern psychology had no bearing on untoward events; the peculiar mental makeup of the man on the throne or of him who ruled the people because of superior statesmanship was not held up in desecration of the man's evil doings; if he was an egomaniac, a paranoiac, the wielder of the pen brushed these matters aside as of no importance. But the modern dissector who holds in his hand a trenchant pen, who has studied the currents and intercurrents of the history of the past and the history of today, who undoubtedly is true to his high standard of candor, has broken away completely from the traditional manner of presenting historical characters, and even though he runs amuck at times in his new freedom no unprejudiced reader can hold back a degree of ad-

miration for the new thrill imparted to his special department of literature. In Dr. C. MacLaurin's "Post Mortem" (George H. Doran Company, New York) we have a case in point, and so decided a case and so exemplary a case, that the medical reader who foregoes reading this book will miss much that is worth while for him to know. But not only will he miss much that will teach him history in the new way, but he will miss much in the way of a literary style that is fascinating, and in the way of humor and kindly philosophy that shine always in so subdued a manner that refinement is never outraged. The author marshals before us Anne Boleyn, Jeanne D'Arc, Empress Theodora, Charles V, Don John of Austria, Mr. and Mrs. Pepys, Marat, Edward Gibbon, Napoleon I and Benvenuto Cellini, and makes each one of them a new personage—something that is not the lay figure of the older historians and essayists. No iconoclast is Dr. MacLaurin, but an ardent admirer of human nature even when the low lights are turned on and the few high lights are dim unto obscurity. And being a human being who reveres mankind in all circumstances, who does not pose as superior to the character he happens to be describing, who is a compound of culture and the sort of erudition that creates a reverential appreciation even of the so-called frailties of mankind, it can be understood at once how unusual are the literary gifts of the author of "Post Mortem." Read his essay on "Death" with which the book closes, and then revert to the many essays you have read on the same subject to the detriment of the "many essays." P. S.

VORONOFF and Steinach are names to conjure with in case one is old, for they are the High Priests who will restore youth and vitality. At least they have been accepted as such by the credulous lay public and also by a goodly number of medical men who are ever on the alert for fads. But why criticize those in medical practice who desire to be modern and who also desire to meet the demands of an insistent number of their patients who have been over-intellectualized by the reading of all sorts and conditions of books written by radicals and reformers who are cocksure that not only can they harness the prevailing social conditions into their way of thinking, but can harness Nature so that she will do their least bidding. There is considerable egoism in all this, but it is the egoism that is the high modern note in all walks of life; and surely medicine, now that the medieval conservatism has been flung to the four winds, has no right not to join in the procession that is going to save mankind from its present social and physical ills. In "Rejuvenation," by George F.

Corners (Thomas Seltzer, New York), the Steinach operation is detailed and glowing tributes are paid to the man who is the controller, so to speak, of the much-desired Fountain of Youth. We have been searching for this glorious fountain for many years, but all in vain, and now that many enthusiasts say it has at last been found, why should we be churlish in our attitude towards so wonderful a discovery? Mr. Corners' book, despite the fact that it has an introduction by Dr. A. Blumgarten, who evidently supervised some of its pages and gave them at least a faint glow of medical science, is especially prepared for the laity, and this fact should be borne in mind by all medical men who read it. That the layman, no matter what his intelligence may be, will understand the operation is quite doubtful, for Mr. Corners uses too many medical and near-medical terms not to confound him; and even the "Steinach Vocabulary" at the end of the book will not be enlightening to him. What will not be his confusion in regard to the difference between the sex gland and the reproductive gland, and the difference between the puberty gland and either the former or the latter! Even well-grounded anatomists would be somewhat at sea in drawing the Steinach distinctions between any two of these expressions. But science, like unto the world, moves on.

P. S.

FINANCE AND THE PHYSICIAN

ELECTRIC LIGHT AND POWER BONDS: A GOOD EXAMPLE OF THE THINGS THAT MAKE AN INVESTMENT WORTH BUYING.

SAMUEL O. RICE

Educational Director, Investment Bankers' Association of America

CHICAGO

This article comes right down to specific classes of bonds and endeavors to convey essentials in what investments to buy and why to buy them. Electric light and power bonds of sound, well-managed companies are among the safest and most desirable investments. The reason they are so is because the demand for electricity is greater than the electrical industry can supply, although electrical companies are annually putting more than a billion dollars into extensions and improvements of their plants and transmission lines.

The foregoing is only one of many sound reasons why the electrical field is so desirable for investors. But don't misunderstand me to say that all electric light and power bonds are

good buys. That is not true of any class of investments or any class of commodities, articles or property. The investor should have dependable information that the bonds he buys are those of a sound, well-managed company. First, the investor should know that the general field or class he contemplates investing in is sound. Electricity can sell more of its product than it can produce and the demand is constantly increasing. There is no substitute for electricity. But all electrical companies are not well managed, or conditions in some localities may make it difficult for a company to succeed, although it be engaged in one of the most prosperous lines of business in the world.

Sales of electricity by central stations in the United States will run close to \$1,300,000,000 this year. The very reliable *Electrical World* makes that estimate. The total sales of electricity for the first six months this year was \$649,300,000, which was 19.5 per cent more than the \$542,000,000 received for current in the first six months of 1922. In the first six months this year electrical companies issued in excess of \$600,000,000 in stock, bonds and notes to obtain capital for extensions and improvements of generating plants and transmission lines. As I said, electrical companies are putting more than a billion dollars a year into extensions and improvements in an effort to keep up with the demand for more and more electricity.

Where is all this demand for electricity coming from? Is it sound? Will it last? Those are pertinent questions.

Let us consider the three great markets that buy electricity. These three are electric lighting, electric railways and electricity for power uses in industry, in mills and factories. In these three the greatest demand for electricity is from the industries, although many persons erroneously believe that the greatest market for electricity is for lighting homes and streets.

There are 24,351,676 homes in the United States, or that was the number when the 1920 census was taken. Of these only about 8¾ million homes are lighted by electricity. That leaves a great number of homes yet to be lighted by electricity. Of these a large number are included in about 7 million farm homes, but quite a few millions of homes without electricity are city and town homes and daily many of them are becoming electricity users. Homes having electric lights generally have greatly increased their consumption of electricity by more artistic and better lighting. Bridge lamps and several colorful shaded lamps are common in almost every living room and parlor where a few years ago one single electric light sufficed. The number of electric lights has been increased in every room in every modern home, be it bungalow or mansion.

Added to this increase in illumination is the use of electricity for cooking, for operating washing machines and other home appliances and for ironing.

Electricity was first most largely used for lighting. Then electric railways developed and became the greater market for current. Today, however, factories and mills that use current for power are the greatest market for electricity. It is a tremendous new development that the public knows little of. I know one industrial plant whose electric bill runs close to \$35,000 a month. Most of this current is used for power, although some is, of course, used for lighting.

But there is still another development in the electrical industry that every prospective investor and every investor should appreciate. It is "super-power," the interconnection of different electrical companies so that the greatest economy and efficiency in producing and distributing current can be brought about. A few years ago this interconnection was impracticable because the industry did not know how to handle high voltages economically. Current is most cheaply transported on high voltage lines. Improvements, largely in insulation, have made it practicable to transport high voltages economically considerably more than a hundred miles and thus greatly increase the efficiency of generating plants. A few years ago a generating plant was limited to service in a radius of a comparatively few miles. No matter how much current it could produce a plant was limited in its "output" because it could not transport electricity a long distance. Now all that has been worked out and interconnection between plants now hooks up many states.

It is impossible to portray in this short space all the great picture of "super-power and interconnection. One little advantage of this development will indicate its great importance and usefulness. Water power electric plants usually have two extremes in production of current. Low water and flood water may both cut down the current-producing capacity of the hydro-electric plant. In such a situation a hydro-electric plant might not be able to serve all its customers. In many cases interconnection solves that difficulty. The current simply is drawn from some steam power electric plant a hundred or more miles away. Likewise, when the water-power plant is operating at full capacity the distant steam plants can cut down on the use of coal by drawing current through their interconnection with the water-power plant.

I mention only a few salient points to indicate the sound field of the electrical industry. Any business that has as large a usefulness and demand cannot but be fundamentally sound.

Would I advise physicians to buy electric light and power bonds? I wouldn't advise anybody to buy anything. Every man's investment requirements are different from those of every other man, or woman. A person's income, obligations, dependents and many other conditions should be carefully considered and his investments be made to fit that situation. I write this only to suggest that anyone with something to invest should consider the electrical industry. There are other utility bonds and industrial bonds just as safe and desirable as the best electric light and power bonds. All should be considered and the investor should keep their characteristics in mind so that he may diversify his investments, not put them all in one enterprise. My suggestion is not to buy electrical industry bonds, or any bonds or stocks without first consulting an honest, established dealer in securities. That is the greatest essential in making sound investments.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Chariton County Medical Society, December 13, 1923.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

Ninety-Ninth Meeting, November 12, 1923

1. EXHIBITION OF CASES.

(a) A CASE OF FRONTAL LOBE TUMOR.—By DR. LEE D. CADY.

White, male, 46. Chief complaint, severe pain in left side of head and cough.

Family History. Indefinite and unimportant. Past History: Ordinary childhood diseases without complications. Pneumonia at 15 and at 25 years of age. Malaria at 30. Had gonorrhea, admits sexual promiscuity and alcoholic excess. Had penile lesion about 25 years ago. Lesion cauterized, otherwise no other treatment. Patient left home at 13. Was never married. Has been in and out of Chicago since 1892, working in restaurants, Pullman cars, etc.

Present Illness: Began rather indefinitely last winter, with drawing pain in his neck and in the frontal region of head, with nausea and vomiting, which appeared suddenly. Some mental confusion, double vision and dizziness. Was in Cook County Hospital seven or eight weeks. Wassermann on blood and spinal fluid said to be negative. Diagnosed: Brain tumor. Patient declined operation and has since been doing clerical work. Pain, nausea and vomiting gradually became worse so that he is now ready for an operation.

Physical Examination. Essentially negative except for chronic bronchitis acute gonorrhea, emotional instability, jocular attitude, moderate insight and poor attention. Otherwise mentality good. Early papilledema, more on left. Pupils slightly irregular, react normally, slight nystagmus in looking upward, and to

extreme right and left, more when looking at extreme left. Left corneal reflex diminished. Left side of face hypalgætic. Tongue protrudes slightly to right. No weakness, but slight ataxia of right hand. Deep sensibility normal. Abdominals brisk and equal. Tendon reflexes slightly greater on left. No pathological toe signs. No ataxia of feet.

Laboratory Examinations. Thus far have been negative. Spinal fluid shows one cell and 3+ Pandy.

Sensory Examination. Patient has a midline hypalgæsia on left which includes genitalia and entire left side of head. There is a definite tender area of left fronto-temporo-parietal region, although the skin over it is hypalgætic.

The evidence for localizing the tumor is rather conflicting. There is a definite tenderness in the left side of the skull, which might sometimes indicate the presence of a tumor, and the patient states that he is sure that the headache had its beginning more on the left than on the right side. Another point in favor of its being localized to the left side is the persistence of the tenderness inside an hypalgætic skin area. The nystagmus on looking to the left cannot be used because increased intracranial pressure may give the sixth nerve impairment which may or may not clear up later. The patient has had dizziness and tinnitus more on the left than on the right side, another indication that the tumor is on the left side. Hypalgæsia, including the entire left half of the body, points to a right cortical lesion involving the entire post-central gyrus. There is no definite midline hypalgæsia such as is found in diseases like hysteria, but a midline hypalgæsia which has more or less serrated margins as is found in organic conditions. Dr. Schwab thinks that this might be explained by pressure through the cerebrum on the cortex of the opposite side, the post-central portion of the cortex, thereby causing the signs on the left side. We have had X-ray plates taken to see if anything could be demonstrated to show the localization of this tumor. There is a suspicious shadow apparently under the right frontal lobe.

2. THE EFFECT OF BENZYL-BENZOATE UPON ARTERIAL BLOOD PRESSURE.—By DR. CHARLES M. GRUBER.

In the first series of experiments dogs were used with and without anesthesia. The direct and indirect methods of recording arterial blood pressure were employed. The animals in which the direct method was employed were anesthetized with either paraldehyde or ether. The animals in which the indirect method was employed were unanesthetized. Pure benzyl-benzoate was given by stomach tubes in doses varying from the human therapeutic dose to doses 630 times the human dose without effecting the arterial blood pressure. Large amounts of 20 per cent. benzyl-benzoate in alcohol produced a fall in blood pressure when given by mouth. The same quantity of ethyl alcohol produced the same effect. The fall in blood pressure with 20 per cent. benzyl-benzoate in alcohol must therefore be due to the alcohol contained in the solution. Spirits of nitroglycerin 6 m.; sodium nitrite 0.2 gms.; and erythrol tetramtrate $\frac{1}{2}$ gr., all produced a prompt fall in arterial blood pressure.

In the second series of experiments, dogs, cats and rabbits were employed, under ether or paraldehyde anesthesia. Some animals were etherized and decerebrated. In all 212 intravenous injections of benzyl-benzoate, benzyl-acetate and benzyl-alcohol were made. The solution was a 10 per cent. benzyl-ester emulsion in 5 per cent. acacia Ringers solution. A fall in arterial blood pressure was noted in 90 per cent., a rise in 8 per cent. and no change in 2 per cent. of the injection. Plethysmographic records of the intestine, kidney, spleen and limb showed that the intestine in-

creased in volume in all instances, whereas the kidney, spleen and limb decreased in volume. The decreased volume of the kidney, spleen and limb may be due to a passive constriction of vessels within these organs (draining of the blood away from the organ), but in view of the fact that these changes occurred in some cases in which there was no change in blood pressure the constriction must be explained upon the basis of a compensatory vasoconstriction due to excitation of the vaso-motor center.

The auricles are affected with a smaller dose than the ventricles. Small doses of the benzyl-esters produced a decreased heart volume, large doses an increased heart volume, with incomplete emptying and cardiac stand-still.

3. SOME OBSERVATIONS OF THE EFFECT OF BENZYL-BENZOATE UPON HYPERTENSION IN MAN.—By DR. CHARLES M. GRUBER and H. H. SHACKELFORD.

The effect of temporary rest and benzyl-benzoate upon arterial hypertension was studied upon 16 cases. These patients had systolic blood pressures above 175 mm. of mercury. The blood pressure readings were taken with the patient in the prone position. It was found that rests of from 20 to 30 minutes reduced both systolic and diastolic blood pressures, the former as much as 60 mm., the latter as much as 35 mm. of mercury. Excitement was found to increase and acute bronchial injections to decrease both systolic and diastolic blood pressure. Benzyl-benzoate, 26 drops of a 20 per cent. alcoholic solution, had no immediate effect upon the blood pressure, readings having been made every 15 minutes for two hours after administration of the drug. It was found that 30 drops given by mouth four times a day for from 4 to 18 days had no effect upon the maximal and minimal arterial blood pressures.

It was demonstrated that benzyl-benzoate in the doses prescribed had no immediate nor remote action upon arterial hypertension.

DISCUSSION.

Dr. Arthur E. Strauss: Papers such as those just presented are of value from two very distinct viewpoints: First, they show what careful observation can do both in the laboratory and in the clinic; and second, they give us a guide as to certain procedures upon which we can rely in clinical therapeutics. Macht is known to be a careful observer, yet we find that other individuals working on the same problems get somewhat different results. Dr. Gruber's preliminary work on animals in the laboratory brought out the very convincing fact that oral administration of benzyl-benzoate is ineffective in lowering blood pressure. The clinical work which Drs. Gruber and Shackelford have done carries the matter into practical realms. I have been fortunate enough to be able to watch their work and was particularly impressed with their care in making observations, and that is a point which I think should be re-emphasized. Another thing shown is the remarkable effect of simple rest, and that rest not under ideal circumstances, as those who work in the clinics well know; but the very definite drop in blood pressure noted merely when lying upon the table for ten or fifteen minutes or longer is significant. We all realize that blood pressure is influenced greatly by rest, but few of us keep that fact in mind when judging results of our therapeutic measures. I know that I, for one, in taking blood pressure, in taking my re-readings after using one drug or another merely try to have the individual under approximately the same conditions. That is to say, I may put the patient on the table and go into the next room to see another patient, returning

about ten minutes later to take the pressure; then the next time I may take the pressure immediately, and in that way I proceed, and all of us do likewise and are thus apt to get false ideas as to the results of our therapeutics. We are all anxiously looking for anything that will aid us in the treatment of hypertension. Dr. Gruber is still working on hypertension. I hope he will be able at a later date to give us something more. Even a negative result, such as this, is of value because it teaches us that we must look further if we are able to get a drug which will give adequate results.

4. ENDOMETRIAL TISSUE IN THE OVARY.—By DR. OTTO H. SCHWARZ and MR. ROBERT CROSSEN.

Abstract from a study of a series of 420 ovaries.

We feel we have been able to study a sufficient number of cases of endometrial tissue in the ovary to allow us to observe the lesion in most phases of its life history. The frequency with which we encountered the lesion in our series leads us to believe it is quite common. However, its real frequency can only be determined by the surgeon who is familiar with the lesion in all its phases and studies his own material in the fresh and microscopically. Under such circumstances Sampson's figures as regards the frequency of the lesion should easily be duplicated. The lesion in the stage which represents hematoma surrounded by a well containing old blood, connective tissue cells and large mononuclear wandering cells without any epithelial lining can be easily overlooked. Sampson's picture describing this late stage is very characteristic. We have failed to observe this lesion in connection with definite lutein and follicular hematomas in various stages although we observed these conditions in considerable numbers in our series. Occasionally there was a somewhat similar appearing lesion in small stromal hemorrhages, but this occurred in a rather irregular manner and never in the same characteristic way in which it was constantly observed in connection with the hematomas supposedly of endometrial origin. The germinal epithelium of the ovary in the presence of adhesions, especially associated with hemorrhage may simulate tube or uterine epithelium. We have observed this frequently, but we have not observed the formation of gland tubules beneath such an area, nor have we observed any characteristic stroma beneath the germinal epithelium.

We believe that in the case of chronic subinvolution of the uterus, with no other lesion present in the wall of the uterus, in the production of the lesion in diffuse adenomyoma of the uterus the glands invade the wall primarily, and that the hyperplasia of the myometrium develops subsequently. That such hyperplasia could occur from glands invading the peritoneal surface is well illustrated by Seelig's case with the lesion in the appendix. Accordingly, we feel that the muscle tissue so well developed in the late stages of adenomyoma of the recto-vaginal septum, the type of case so well described by Cullen, may have its origin in this manner.

DISCUSSION.

Dr. H. L. Crossen: The endometrial cysts of the ovary are of great significance from the clinical, as well as from the pathological standpoint. They are met with in operative work much more frequently than is generally appreciated. Also a well marked case of this disease with its extensive and dense adhesions and irritating "chocolate" fluid, escaping as the adhesions are separated, presents some serious problems in treatment. The first problem is in regard to the separation of the dense adhesions and liberation

of organs for satisfactory surgical replacement or removal. The adhesions are not simple agglutination of surfaces as in inflammatory trouble, but real tissue ingrowth into the surrounding organs, hence the separation is exceedingly difficult and dangerous, as there is likelihood of tearing through the wall of the adherent intestine. In my experience the higher pelvic adhesions about the ovary, tube and corpus uteri, can with care and patience be safely separated, but in several instances I have not been able to separate safely the lower adhesions, those about the cul-de-sac and involving the rectum and posterior surface of the cervix uteri. In these cases the cul-de-sac was obliterated and the cervix and rectum were so completely fused by old organized tissue that to persist in the attempt to separate was likely to lead to a tear in the rectum. In such cases, where the operation was for retrodisplacement of the uterus, the lower portion of the uterus was left attached and the upper portion only was raised as much as possible and fastened. In the cases where hysterectomy was required, supra-vaginal hysterectomy only was adopted where feasible in place of the preferable complete hysterectomy.

Another serious clinical problem presented by these cases is in getting the patient through without peritonitis or intestinal paralysis. Just what factor it is that makes these patients so prone to peritonitis and intestinal paralysis is not altogether clear, for there is no infection. But that the danger is great is only too painfully evident to those engaged in pelvic surgical work. Three trying experiences in the last two years have convinced me that this disease constitutes one of the most serious and fatal pelvic condition for which operation is required in the middle child-bearing period. The first of these experiences came about two years ago. At operation I recognized the typical condition of endometrial cyst with the existence of dense adhesions and the "chocolate" contents leaking from the cyst. There was no pus and no evidence of infection, consequently no drainage was employed, the abdominal wound being closed entirely as in all non-infected cases. The patient developed intestinal paralysis, probably due to a low grade peritonitis, which led to persistent severe paralysis and fecal vomiting. This was finally overcome by opening the distended intestinal coil, draining away the contents here, thus leaving the stomach and upper intestinal tract for taking care of nourishment. It was a long hard siege, but the patient finally recovered, the artificial intestinal opening having been closed by operation when no longer needed.

In the second experience referred to, a young married woman in good general health, had a painful, enlarging pelvic mass, requiring operation. The operation revealed a case of bilateral endometrial cysts of the ovary with extensive adhesions, and as the adhesions were broken the escape of a considerable amount of chocolate colored contents of the cyst was noticed. There was no pus and no evidence of infection then or previously. So the abdominal wound was closed without drainage as is the rule in noninfected cases. A low grade peritonitis developed with resulting intestinal paralysis. The peritonitis increased, an acute nephritis developed, the patient went from bad to worse and finally died in spite of peritoneal drainage, intestinal drainage and everything else that was done.

The third experience was a consultation case. I was called hurriedly in the night to a hospital by one of our best gynecologists to see a patient who was then dying of peritonitis. A young married woman of prominent family had been subjected to operation for a troublesome pelvic mass. No pus was found and the development of peritonitis was a great surprise and shock. Inquiry revealed that extensive, dense adhesions were encountered and some cysts with

typical "chocolate" contents, which escaped as the adhesions were separated. The condition found at operation was typical of endometrial cysts, with extensive dense adhesions and cysts with chocolate contents.

Of course other cases have been more fortunate and have come through—some with very little trouble and others with stormy convalescence. But paralysis and peritonitis are likely to develop in any of these cases and when once developed we are in the presence of a most serious complication.

These serious experiences have led me to adopt drainage in all cases of well marked endometrial cysts and in cases of dense adhesions that are suspicious of endometrial cyst. In the last six months I have applied drainage in several such cases, with most satisfactory results. I have now in the hospital two such cases with drainage—one was a typical case of ovarian endometrial cysts and adenomyomata, and the other was a suspicious case with adhesions. Both are making a perfectly normal convalescence. I feel that this is a life-saving measure in these very serious cases, and I do not dread these cases now as I formerly did.

5. PNEUMATURIA, WITH REPORT OF A CASE.—By DR. H. G. GREDITZER.

The earliest cases of pneumaturia on record are those quoted and reported by Raciborsky in 1671 and 1860, respectively. Several cases were reported by Keyes in 1882 and by Tisne in 1887. Taussig collected all of the available cases in 1907. The amount of gas passed varied from 16 to 18 c.c., and consisted chiefly of carbon dioxide and hydrogen.

In the following case the cause still remains an uncertainty. Pneumaturia is a noticeable symptom of vesico-intestinal fistula, diverticulitis and diabetes, in the latter due to yeast fermentation of a saccharine urine. The organisms involved are the colon bacillus, proteus and bacillus lactis aerogenes. The case here reported had neither fistula nor diabetes.

Mr. B. M. C., age 33, married.

Family and past history: Negative with the exception of persistent constipation.

Present illness: Onset a week ago with passage of gas at the end of urination.

Cystoscopic examination showed a generalized cystitis.

Culture of urine: Bacillus coli communis.

Kidneys: Negative.

Gastro-intestinal diagnosis: Colonic motor delay and redundancy of colon.

No evidence of fistula.

The cystitis with its troublesome symptom of pneumaturia finally yielded to lavages with 1 per cent. silver nitrate solution.

DISCUSSION.

Dr. H. McClure Young: One point made struck me especially, if I understand clearly. The appearance of gas in the urine ceased after the passage of an instrument, first after the passage of a sound and then after the passage of a cystoscope. I do not see why it should be affected at all by the passage of an instrument if due to bacteria in the bladder, but a urethral fistula will often close after the passage of a sound. The probability is, I should say, that a fistula does exist and yet it may be difficult to find it. I would suggest that it might be a fistula connected with the urethra. A very careful examination with an irrigating endoscope might reveal it. Also it might be possible to insert a ureteral catheter and X-ray it, to show if it communicates with the rectum. Possibly it might help if we fill the rectum with methylene blue and see if any of the dye passes into the urethra. Cystograms might be taken at various angles, with the

bladder pretty well distended, and the catheter withdrawn to allow the fluid to come down into the urethra, and the pictures taken then might reveal the trouble. This case is interesting because instrumental examination in looking for these things is a very interesting thing. If a fistula could be found, what to do for it would be another matter. I believe it could be helped by putting in a fulminating wire to cauterize it.

Dr. Greditzer: I merely wish to add that the barium enema was given. Cystograms were taken after the barium enemas. We could distinguish both urethra and rectum well. A communication between the rectum and the urethra would have been shown. After instrumentation, the passing of gas ceased for a time. If there had been a fistula the patient would have continued to pass gas. At the last ureteral catheterization we found bacilli coming from one kidney. Probably some four or five months have found the patient entirely free from gas, with the urine clear. As to the endoscopic part of the findings, as far as I could see there was no fistula present, and if one of any size existed it would surely have been observed.

BOOK REVIEWS

ABT'S PEDIATRICS. By various authors. Edited by Isaac A. Abt, M.D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. In eight octavo volumes totalling 8,000 pages, with 1,500 illustrations, and separate Desk Index volume free. Now ready—Volume I, containing 1,240 pages with 284 illustrations. Volume II, containing 1,025 pages with 180 illustrations. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$10.00 per volume. Sold by subscriptions.

The first two volumes of this comprehensive system of pediatrics have just made their appearance. As stated in the preface this treatise is a collection of monographs upon diseases of infancy and childhood. One hundred and forty-four contributors have furnished the material for the complete system, many of whom are outstanding authorities upon their subjects. The work is mostly by American writers. These first two volumes contain nearly 500 illustrations.

It is difficult to write a critical review of such a comprehensive treatise. Each chapter presents, of course, the individual style and viewpoint of the particular writer. In addition to the introduction by Dr. Abt upon the subject of previous books which refer to diseases of children, it has been the editor's work to select the contributors, to see that all subjects are covered and to make use of his life-time accumulation of knowledge of the history, development and advance in pediatrics as few other writers and clinicians could so well do in the creation of this complete reference work. It is a work which will be of service to all students of the subject, whether undergraduate, graduate, general practitioner or pediatrician.

Although the specialty is little over a half century in age, it is interesting to find that this system devotes 170 pages to the history of pediatrics, giving an opportunity for ready reference otherwise inaccessible to many. Colonel Garrison, the writer, has had at his command the resources of the Surgeon General's Library in Washington.

The first volume consists of exhaustive chapters upon congenital and acquired predisposition and heredity, upon the anatomy of the infant and child, upon growth and development, upon the physiology of metabolism in infancy and childhood (326 pages), upon the application of physical chemistry to the physiology of childhood, upon hygiene of childhood (323 pages). Nowhere else within one volume can so

much valuable information be obtained to form the foundation and introduction to the study of pediatrics.

In the second volume is found a consideration of the causes of death in infancy, the methods of examination of children, peculiarities of disease as presented at this time of life. It is impossible here to mention all the various subjects considered, but they deal mostly with the food, physiology, diseases and treatment of infancy and the earlier periods of childhood.

In summary, one can say that these two volumes form a part of what will prove to be such an instructive, useful and complete system of pediatrics that we will all have it in our private and general libraries.

It will be many years before such an extensive and ambitious treatise can again be attempted. F. C. N.

HUGHES' PRACTICE OF MEDICINE, Including a Section on Mental Diseases and one on Diseases of the Skin. Twelfth Edition. By R. J. E. Scott, M.A., B.C.L., M.D., Fellow of the New York Academy of Medicine, etc., with 63 illustrations. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia.

This is a most valuable volume of ready reference, thoroughly condensed, and should be in the library of all physicians as it covers the general field of medicine in a concise manner and deals with symptomatology and treatment, giving clear and definite therapeutic information. A. H. H.

MISSOURI STATE CONSTITUTION
Special Election, February 26, 1924.

Sample Ballot for Amendments

Proposed Amendments to the Constitution.

To vote **FOR** any amendment strike out the word "No" to the right of and opposite to the ballot title to such amendment.

To vote **AGAINST** any amendment strike out the word "Yes" to the right of and opposite to the ballot title to such amendment.

ARTICLE II.—BILL OF RIGHTS.

Amendment No. 1.

To amend Sections 8, 12 and 14 of Article II.—Enlarges powers of religious corporations to own real and personal property; simplifies form of indictments and informations; removes requirement in trial for libel.

YES

NO

ARTICLE IV.—LEGISLATIVE DEPARTMENT.

Amendment No. 2.

To amend and combine Sections 1 and 57 of Article IV. as Section 1 of Article IV.—Relates to the legislative power of the General Assembly and of the people; changes provisions of the Initiative and Referendum.

YES

NO

Amendment No. 3.

To amend Sections 3, 6, 7, 8, 9, 10, 11, 15, 16, 17, 24, 36, 43, 45, 46 and 47 of Article IV, to combine Sections 46 and 47 of Article IV as Section 46, and to add new Sections 47 and 57 thereto.—Relates to Senatorial districts, oath of office of members, pay of members and limitation of expenditures for employes, organization of the General Assembly, limitations on legislative power and authorizes certain pensions and provides for workmen's compensation.

YES

NO

Amendment No. 4.

To amend Article IV of the present Constitution by adding new Section 44c thereto.—Authorizes an additional issuance of bonds not to exceed four million six hundred thousand (\$4,600,000) dollars for deficiency in payment of bonuses to soldiers and sailors of the World War.

YES

NO

Amendment No. 5

To amend Article IV by adding Section 58 thereto.—Requires the General Assembly to provide by law for the safe-guarding and promotion of the public health:

YES

~~NO~~

ARTICLE V.—EXECUTIVE DEPARTMENT.

Amendment No. 6.

To substitute revised and amend Article V and all sections thereof to provide by law for the State: provide the safe-guarding and promotion of the public health? It's reasonable.

WHY NOT VOTE

Vote for Amendment No. 5. Vote YES Scratch ~~NO~~

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

Volume XXI

ST. LOUIS, MO., FEBRUARY, 1924.

NUMBER 2

E. J. GOODWIN, M. D., EDITOR
3529 Pine St., St. Louis, Mo.

PUBLICATION COMMITTEE { W. H. BREUER, M. D., Chairman
S. P. CHILD, M. D.
M. A. BLISS, M. D.

ORIGINAL ARTICLES

FOCAL INFECTION WITHIN THE ABDOMEN*

JOHN B. DEAVER, M.D.

PHILADELPHIA, PA.

While the phenomenon which we today recognize as focal infection is no new thing, it is only within comparatively recent times that it has gained prominence, brought about by the newer science of bacteriology and the more accurate knowledge of disease processes which we have acquired.

Systemic or general disease due to local infection has been recognized from time immemorial. Long before the days of Pasteur and Lister, careful observers had noted the frequent occurrence of a general disease arising from septic wounds and characterized by chills, fever and general debility. This was thought to be due to a putrefactive process. It was Semmelweis who, in 1847, first connected puerperal sepsis with the unclean hands of students and physicians from the dissecting rooms. Although Klebs first recognized that sepsis was due to microorganisms, it was not until Lister published his epoch-making paper in *The Lancet* in 1865, which was based upon the researches of Pasteur, that the problem of wound infection was rationally discussed and understood. General surgical sepsis is now an infrequent occurrence and the systemic reaction to it is well understood. Clinical research, aided by the laboratory, has permitted us to take a broader view of the subject of infection, and we are now more concerned with obscure foci of infection which may give rise to local or general disease. In this type we usually have to deal with organisms of attenuated virulence; but due to the fact that they are constantly or repeatedly being thrown into the blood stream, their results may be just as, or even more serious, than the acute types formerly seen.

Focal infection has been the subject of much discussion in the last decade, but in most of these discussions the abdominal surgeon has

had little to say. His voice has been drowned out by the stronger chorus of laryngologists, rhinologists, genito-urinary specialists, gynecologists and dental surgeons. There has been much truth in all that these specialists have had to say, but there is also much truth which they have left unsaid and which the general surgeon is now prepared to say.

To Billings and Rosenow we owe most of our knowledge of focal infection, the latter in particular having made important contributions with his work on the selective affinity of certain organisms for certain tissues. What I particularly want to talk about to you is the subject of foci of infection within the abdomen.

The laryngologist has offered the tonsil and sinuses; the dentist the apices of the teeth; the genito-urinary specialist the prostate, the deep urethra and seminal vesicles; the gynecologist the fallopian tubes; and to these the abdominal surgeon can add the appendix, the gall-bladder and the bowel. I come to you with the plea that in your hunt for foci you will give those that I will discuss this afternoon the same careful consideration that you now give to the teeth and tonsils. While the tonsils may be readily examined without danger of discomfort to the patient and disease of the teeth be determined by X-ray or direct examination, the foci which I am going to discuss are not so easily diagnosed and only by a careful and complete history and physical examination can we determine the location of the disease.

Chronic appendicitis is by far the most common surgical condition found in the abdomen. It occurs most frequently in the second, third and fourth decades of life. The pictures describing the symptomatology of chronic appendicitis are apt to be confusing. This is readily appreciated when one considers the difficulties encountered in the diagnosis because of the variability of the manifestations and the many conditions which may simulate it. The outstanding and almost constant symptom is periodic pain in the right iliac fossa. The next most constant symptom which is almost invariably found at some time or other when looked for, is tenderness. I frequently hear constipation cited as a symptom, but this is also a com-

*Read before the Kansas City Annual Fall Clinical Conference, October 10, 1923.

mon condition in persons not suffering from chronic appendicitis. I believe that our follow-up statistics would be better if the cases of enteroptosis with constipation and a nervous instability were withheld from the surgeon's knife. We must not be carried away by an overabundance of enthusiasm, but the conditions which I want to discuss are those which I have observed as being due to appendicitis and relieved by the removal of this organ.

Both the appendix and the gall-bladder are sacs with only one opening. They can well be termed diverticula of the alimentary canal. The ductal drainage from both is often inadequate, therefore, once the interstitial tissue is infected it is apt to remain so. The appendix is frequently referred to as the abdominal tonsil and its tissues closely resemble tonsillar tissue. Billings and Rosenow have pointed out this resemblance and have shown that acute and chronic tonsillar infection may be followed by acute or chronic appendicitis. Adrian observed appendicitis as a focal infection or general disease. In acute appendicitis the lumen may be full of pus and the appendix may resemble a test-tube, an ideal culture chamber for bacteria and a jumping-off place for infection into the blood stream. Since our interpretation of a chronically diseased appendix clinically is that of an appendix subjected to recurrent inflammation, the acute pathology may subside but the residual infection may serve as a nidus for the infection of other organs.

Chronic colitis is occasionally due to a continued infection from the appendix or the gall-bladder. I also believe that some of the cases of mucous colitis have their origin in appendiceal inflammation. Either of these conditions with the exhausting diarrhea and wasting which accompany them, may occur with very few localizing symptoms. The foul-smelling material frequently found in the lumen of the chronically diseased appendix can be compared with the pus in the tonsillar crypts. The fatty offensive diarrhetic stools described by Einhorn are frequently associated with chronic gall-bladder infection.

Much has been said as to the etiology of diabetes, but it is now recognized that it may be due to a pancreatitis, the result of chronic cholecystitis. I am fully aware that this is probably not a frequent etiology, but it is a very common source of pancreatitis unassociated with glycosuria. It is unfortunate that all too frequently neither cholecystitis nor pancreatitis is diagnosed until great damage has been done.

Very often patients suffering from appendicitis or cholecystitis complain of palpitation and substernal distress. A cardiac irregularity

may even be present. Lichty, of Pittsburgh, is responsible for the statement that in appendicitis the cardiac disturbance may be only functional, while in cholecystitis a severe myocarditis may be present. Riesman and Babcock have reported cases where the absorption of toxins from an inflamed gall-bladder caused toxic myocarditis with or without anginoid symptoms. The danger here lies in the fact that the cardiac lesion soon overshadows the biliary lesion and when the patient seeks relief for the biliary symptoms the cardiac disorder has advanced so far as to make operation hazardous. I have occasionally seen patients diagnosed as having hyperthyroidism restored to perfect health after removal of a diseased appendix or gall-bladder. We must always consider cause and effect; and where the cardiac pathology results from the abdominal infection, the latter must be removed if there is to be any hope of alleviation. By procrastinating valuable time may be lost without improving the cardiac condition.

Pyelitis may occur as a direct result of cholecystitis or appendicitis and the lesion may even become that of a pyelonephritis. Kidd reported five instances "of an inflamed, distended gall-bladder being the primary incubation chamber and cause of pyelitis." The pyelitis is usually right sided and when it results from chronic appendiceal or gall-bladder infection, the symptoms may suggest an acute lesion in one of these organs. It has often taxed my judgment to be certain that the two acute lesions were co-incident. When this does occur the primary focus must be dealt with surgically if relief from the pyelitis is to be obtained.

Although synovitis and arthritis are usually due to oral sepsis or tonsillar infection, they may occasionally be due to appendicitis. When this first became known it was thought that the appendicitis was rheumatic in origin, since the appendix, like the tonsil, is rich in lymphoid tissue. We now believe that the initial pathology is in the appendix.

There is little doubt in my mind and in the minds of most abdominal surgeons that peptic ulcer also is the result of a focal infection. (Occasionally a gastro-enterostomy fails to relieve the symptoms and in other cases marginal or jejunal ulcer develops.) It is for this reason that I advise routine appendectomy with scrutiny of the gall-bladder at the same time that the ulcer is treated surgically. Occasionally we diagnose peptic ulcer in a patient who is really suffering from chronic appendicitis. In these cases, many of which even present hematemesis, there may be seen at operation not a lesion in the upper alimentary tract, but definite evidence of disease in the appendix. The

hematemesis in these cases Bassler and others believe to be of toxic origin.

In discussing focal infection, one source of bacteria is often forgotten because there is no localized infection from which the organisms invade the blood stream. This is the bowel which, when the bacterial balance has been upset by constipation, diarrhea, adhesions of specific infections, may be the source of invasion of the blood stream. Kidd says that in 94 cases of pyelitis the bowel was undoubtedly the primary source from which the bacteria invaded the body. He says further, "As long as the bacterial balance of power in the alimentary canal is maintained—the colon bacillus and other bowel bacteria live amicably with us and fulfill their role in digestion. It is only when we play tricks with our life-long lodgers that they can do us harm by producing invasion of the blood stream, secondary tissue infections, such as appendicitis, colitis and peptic ulcer."

Constipation and stasis are common conditions today. I do not believe that in the ordinary case of stasis surgical treatment is indicated. Sir Arbuthnot Lane's excision of the colon is no longer considered a justifiable procedure, for it is a case of the cure being worse than the disease. Correction of stasis is a medical problem, consisting of proper diet, exercise, abdominal massage, sleeping with the foot of the bed raised and sometimes wearing a properly fitted abdominal support. The surgeon must always be on the alert with these cases; since one operation only brings them back for another and they finally become part of what I term surgeon's wrecks. Of course if the stasis is the result of a kink or adhesion, operative intervention may be indicated, but the cases I am referring to are those in which the X-ray shows a general visceroptosis. To your own Jackson I bow in recognition of his surgical ingenuity when I speak of Jackson's membrane in the discussion of colitis. As regards extreme ileal stasis, adhesions from a diseased appendix are more frequently the cause of obstruction than are the Lane's ileal kinks. My personal feeling about these is that they also are inflammatory and not congenital. If a duodenal ulcer can perforate while the fetus is in utero, as reported by Lee, so too the appendix can be the seat of intra-uterine inflammation.

I have frequently mentioned pyelitis as resulting from appendicitis, cholecystitis and chronic stasis. We must remember, however, that pyelitis may occur as the result of other foci. Frequently when occurring from such a focus it is confused with appendicitis or cholecystitis. A careful urinary analysis, including cystoscopy and X-ray finding often helps in clearing up the diagnosis, but should a ques-

tion of doubt still remain in the surgeon's mind I believe it is better to perform appendectomy under nitrous oxide and oxygen anesthesia immediately than to wait until an acute exacerbation with perforation or gangrene has taken place.

As I have before remarked, the genito-urinary specialist and the gynecologist have already placed sufficient emphasis on the tubes and the prostate as sources of focal infection: gonorrheal arthritis from either source is of sufficient import to warrant our keeping them in mind. The tubes may also be the source of focal tuberculous infection. Tuberculosis peritonitis certainly often originates in either the appendix or the fallopian tubes. The reason the focus is not discovered at operation is because the disease has advanced so far as to destroy the evidence of its origin.

I come then to ask you to give the same consideration to the abdominal foci as you have given to the visible ones elsewhere. A careful study by the internist, radiographer, laboratory man and the surgeon will do much to make diagnosis early and more certain. Co-operation is necessary since in many of these cases a textbook picture is not to be found. The clear cut cases are simple. Even a student can diagnose them easily enough. It is the obscure case which taxes our ability to the utmost. Focal infections are often difficult to localize. Do not forget that the tonsils, teeth and sinuses are not the only locations of hidden disease. More hidden, but just as deadly, are the foci located in the region between the diaphragm and the levator ani. I might have said more deadly, because what is more hazardous than a spreaded peritonitis, should an acute flare-up occur.

1634 Walnut Street.

CONDITIONS AMENABLE TO RELIEF OR CURE THROUGH ABDOMINAL SURGERY*

EDWARD P. HELLER, M.D.

KANSAS CITY, MO.

I have chosen this subject, not to burden you with information which is already quite familiar to you, but with the thought that in this broad field I will mention or discuss some affections which you, in your busy lives, have not had time or opportunity to study. I shall therefore merely enumerate the more common acute and chronic abdominal conditions requiring surgery, and dwell on some which have not yet gained well-established places in the realm of surgical therapeutics, some which have been recalled from the discard, and some general dyscrasias which have been added to

*Read before the Platte County Medical Society, Weston, Mo., October 3, 1923.

the list of curable diseases through abdominal surgery.

You are all very familiar with the possibilities of surgery in acute and chronic appendicitis—of the urgent need for it in the former condition, and the ultimate need in the latter, if relief is to be afforded. The painful attacks of gall-bladder and renal colic cause patients to seek relief after years of procrastination, and often after irreparable damage has been done the parenchyma of the affected organ. The point is that they are usually surgical cases from the beginning, and operation is only delayed because the intervals are spent in comparative comfort. We as physicians know that these periods of quiescence are not periods of inactivity on the part of the pathologic process. We know that for every diseased gall-bladder there is a hepatitis, and possibly also a pancreatitis with disturbance of metabolism. We know that many of the younger patients whom we see with gaseous indigestion, "bilious attacks" and intestinal atony are breeding gall-stones which our successors will have to remove. It is for us as modern medical men to recognize these conditions in their incipiency, and if possible prevent further progress of the disease by correction of diet, elimination of foci of infection, and if these means fail, by surgical methods. As for renal colic, a study of one or two attacks will usually disclose whether the pathology is such as to require surgical care.

Certainly we all agree that a tuberculous kidney should be removed, likewise one which is the seat of a neoplasm or gross pyogenic infection. But how often do we see decapsulation done for cases of prolonged anuria and for cases of otherwise incurable chronic and subacute nephritis? Not often enough and yet there is ample proof of the benefit of this procedure either with or without drainage of the kidney pelvis. In unilateral renal hematuria nephrectomy is often justified although decapsulation is, as a rule, sufficient.

In the light of modern investigation, we should not forget that many abscesses of the kidney and infections of the pelvis, ureter and bladder are due to localization of infective material carried from some distant focus by the blood-stream. Elimination of a surgical kidney should therefore be accompanied by or supplemented by the removal of foci of infection. An infected appendix is at the bottom of much intra-abdominal pathology, and should practically always be removed in operating for gall-bladder disease or peptic ulcer. To use Deaver's expression, there is no use to put out the fire and leave the match burning.

As regards the pelvic diseases of women, there are several which require complete removal to affect a cure, namely: malignant and

benign tumors of the uterus and ovaries. It is true that radium does some good in cases of uterine carcinoma and fibroma. Yet there is nothing to date which supplements early recognition of these neoplasms and complete surgical removal. Pus tubes and tuberculous salpingitis are to be radically excised. Ovarian cysts and broad ligament tumors are prone to become malignant, but the pain and discomfort due to their presence, in themselves warrant their removal as soon as detected. Prolapse and the various displacements of the uterus have their appropriate surgical treatment. Tuberculous peritonitis although simply one of the manifestations of the disease elsewhere in the body, is greatly retarded and occasionally cured by simple laparotomy.

Turning our attention again to the upper abdomen, let us consider the dyspeptic, the man who has been from doctor to doctor and whose chief medical treatment has been "nux and soda." Surely all of us see cases of painful indigestion, in contradistinction to the gaseous type previously mentioned. Too often these cases are well-developed perforating ulcers before they come to surgery. The medical treatment of peptic ulcer is justifiable only if progress is definitely toward cure within a few weeks. If there is no progress, or there is any doubt about it, such patients had best be sent to the surgeon before there is perigastric pathology, and before much valuable time has been lost. Cancer of the stomach if seen early enough can be removed, or if too large and giving rise to obstruction at the pylorus, these patients can be rendered comfortable by gastro-enterostomy.

Gas, pancreatic, and echinococcus cysts, if diagnosed, should always be dealt with surgically. In diagnosing abdominal tumors, we should be ever on the alert for the gravid uterus. Here surgery has no place except at term and in the presence of some definite obstruction to delivery.

I might mention in passing a condition found in infancy, and which is fatal if not attended to promptly, hypertrophic pyloric stenosis. Then, too, there are those unfortunates with enteroptosis, who do not respond well to any treatment, and who occasionally have to be subjected to surgery. Many cases of chronic intestinal stasis with consequent toxemia are completely relieved after the release of constricting peri-colic bands. (The resection of large segments of the colon is not often done today, as the results did not seem to justify the effort.) The more marked obstructions due to neoplasms, volvulus, intussusception, strangulation and mesenteric thrombosis are all surgical when recognized.

This brings me to a newer and more interesting field, to a consideration of several dys-

crasias and more or less hopeless states that derive either complete relief or temporary comfort through surgery. First in this group are those cases of hemolytic jaundice, formerly doomed to a fatal anemia, but which now are restored to normal health through splenectomy. No doubt we all know a few of these chronically jaundiced individuals, who seem in fairly good health, yet who become more and more anemic, and often have a sister or a brother in the same condition. Unlike cases of ordinary (obstructive) jaundice, they do not have clay-colored stools nor bile in the urine. Some of them appear to have a hypertrophic cirrhosis of the liver, and unless we are very careful our attention is distracted from the real cause of trouble—the spleen.

Removal of the spleen lengthens the lives of about twenty per cent of the cases of pernicious anemia subjected to operation (Mayo). Cases of hemorrhagic purpura, splenic anemia and Banti's disease have been completely cured by splenectomy.

Isolated cases of cirrhosis of the liver have gotten well spontaneously, often after repeated tapings. Most of them, however, have died a hopeless death. Yet the Talma operation is an old operation and almost forgotten. Why this should be I cannot understand. About two years ago David Riesman of Philadelphia redirected our attention to the good chances of operative cure. In his words: "Cirrhosis of the liver is one of the few non-bacterial visceral diseases—perhaps the only one—that may actually be cured."

I would qualify this statement by the addition of one other such condition, namely, cirrhosis of the pancreas, or chronic interstitial pancreatitis. Many emaciated individuals have been considered to have pancreatic cancer at operation because of the stony hardness of the organ, especially if the head alone was involved. Yet many of these cases recover after drainage of the gall-bladder or common duct, or after shunting the obstructed bile from the gall-bladder into the stomach or duodenum by anastomosis. Bevan (1918) stated that he has had "twenty or more of these cases, many of which were considered malignant at operation but had made complete recoveries."

Of all the forms of neoplasm, with the possible exception of those in the central nervous system, there is none which, while yet quite small, can produce such marked symptoms as carcinoma of the head of the pancreas or of the lower end of the common bile duct. The rapid emaciation, mental and physical depression, and marked jaundice, often proceed to a fatal end before metastases take place. Owing to the peculiar situation of the pancreas and the character of its secretion, nothing in the way of resection of the tumor is usually possi-

ble or even desirable. However, in recent years through the efforts of Heyd, Downes and others in America, and a number of European surgeons, these cases are being rendered comfortable by cholecystogastrostomy, and those cases which simulate cancer but which are in reality chronic pancreatitis are given a chance to survive.

I might go on with further illustrations of the use of surgery, as for instance the use of colostomy for obstructing carcinoma of the colon, appendicostomy for intractable cases of dysentery and colitis, cystostomy for the preliminary relief of organic obstruction of the urinary bladder, and so forth—but I feel that we have reviewed the field pretty thoroughly. If I have succeeded in visualizing for you the vast number of opportunities we have for relieving the suffering and disease of our patients, I shall feel well repaid.

1208 Wyandotte St.

SOME CLINICAL OBSERVATIONS ON THE COMPLICATIONS AND TREATMENT OF MEASLES

JOHN ZAHORSKY, M.D.

ST. LOUIS

In the recent epidemic of measles (1922-23), with the assistance of Dr. Ralph Cook, I treated 324 cases of this disease. It seemed worth while to record a few clinical findings and discuss certain phases of epidemiology and therapeutics based on this experience.

The first case was reported on January 26, 1923, the last on June 22, 1923. The majority of cases occurred in children from 4 to 7 years of age. No influence of meteorologic changes could be determined on the morbidity and mortality. Only one doubtful second attack was recorded. Older children do not contract measles because they already have had the disease in former years. No perceptible effect from municipal or private effort to prevent the spread of the epidemic could be observed. The only prevention of measles is establishing a personal immunity, and the only method to accomplish this is to have the disease. It is very questionable that preventive medicine should at present spend time and money to prevent measles.

The adult who has not had measles is really defective compared with one who has had the disease in childhood. The experience in the World War fully established this fact. We can only hope that some method will be discovered whereby we can produce some artificial immunity by inoculation, as in smallpox.

There is no great mystery about the epidemiology. A community is infected by the

measles virus, usually from some other part of the country. I doubt the usual text-book statement that measles is endemic always in our large cities. In the interim of epidemics the reported cases of measles are generally something else. Especially is roseola infantum and rubella still the source of mistaken diagnosis. The infection having started it spreads until nearly all susceptible persons are attacked. The disease dies out and a new generation has to grow up to the school age. This takes three or four years, as a rule, when a community again has a sufficient number of non-immune to foster an epidemic.

A few years ago, with the assistance of a local physician, we were fortunate in tracing the origin and spread of an epidemic in a rural community, Crawford County, Mo. The disease had not been epidemic in the county for ten years or more.

A St. Louis girl about 14 years of age was convalescing from measles. Three days after the rash began to fade she went to the country to visit some relatives. These relatives had in their home at the time a young school teacher, 18 years of age. About 12 days after this visit in a neighboring town a box supper was given. A large number of school teachers from neighboring districts attended this box supper. Our young lady also attended. She had some fever that night and symptoms of a cold. She broke out with measles two days later.

This box supper resulted in a half dozen school teachers becoming ill with measles within two weeks, and infecting the children of their school in as many different districts. A wide epidemic burst forth suddenly and swept the country in one month.

About ten years ago I had the fortune to witness the onset of an epidemic in St. Louis. I was called to attend a boy about eight years of age, suffering from measles. As I had not seen a case of measles for two years, I was interested in the origin of this case. On inquiry it was ascertained that the family had moved to St. Louis from Philadelphia one week before. The mother knew of other cases of measles in the city from which she emigrated. Two days after her arrival, the boy entered a public school. He had not felt well for three days, but he continued his school attendance. This was the beginning of a city wide epidemic.

The measles poison is brought from the outside and if it is once introduced into places where children congregate indoors the epidemic becomes established. The disease is not recognized until the rash appears, and all efforts of the health authorities to check the disease are futile.

What is the danger in measles? Measles alone is very rarely fatal—I have seen one case only, a poorly nourished infant, who died of acute suffocative bronchitis, at the end of the second day of the efflorescence. The clinical symptoms indicated an extensive exanthem in the bronchioles, probably not a secondary infection. A similar case occurred a few years later in a boy four years of age, who presented the symptoms of asthmatic bronchitis with great dyspnea and cyanosis about the time the rash appeared. He was saved, however, by the stimulating effect of repeated hot mustard baths.

As is well known, the great danger in measles is a secondary infection, usually of the respiratory tract, the nasopharynx, larynx, bronchi and lungs. The exanthem produces superficial lesions of the respiratory mucous membrane which becomes secondarily infected, most commonly by the pyogenic bacteria and the pneumococcus. The systemic resistance seems also very much reduced after measles: consequently, these secondary infections become severe and dangerous.

Whence arise these secondary infections?

It is a common belief that the infant harbors these micro-organisms in the respiratory tract and only needs the measles and some exposure to break down the natural resistance. No doubt this is sometimes true, but the majority of cases, I am convinced, receive their secondary infections from someone else.

The great danger in measles is not a draft nor exposure, but the presence in the household of someone else (often an adult) who has a "cold," or the grippe or sore throat, or a "cough." It is exceedingly dangerous for the young child who has the measles to be visited by others; someone may convey to him a pathogenic microorganism. Hence rigid isolation in a large room is essential in the treatment of measles, not for the purpose of preventing the dissemination of measles, but in order that the patient may not be contaminated. I believe in placarding the house in which measles is present for the same reason. It deters visitors from playing with the susceptible child. In order to illustrate this I will briefly report a few cases:

R. L. and J. L., age one and two and one-half years, received their infection of measles from an older brother, who had passed through the disease without complications. The little patients were carefully nursed although ventilation was not always good. On the sixth day of the disease both took severe bronchopneumonia from which the younger succumbed. It was difficult at first to ascertain how these babies had been infected. Finally, I inspected the whole household. It was found that the grandmother, whom I had not seen during my visits and who nursed the infants during part of the day, was suffering from a severe grippe attack with an ugly mucopurulent discharge from the nose. The prob-

able source of the secondary infection seemed very clear.

Another instance: A baby two years old suffering from measles was cared for by a nurse-maid who had an ordinary grippal bronchitis. The baby succumbed from a generalized bronchopneumonia.

To prevent respiratory infections isolate the patient as soon as measles is suspected, keep all the brothers and sisters away, and let only one person who is perfectly well attend the little patient.

It is obvious that good ventilation is necessary. Every time the child coughs it discharges the measles poison. When parents object to keeping a window open, I ask them pointedly if they want their child to reinhale the measles germs which it is constantly throwing out with each coughing paroxysm. I have no trouble with the ventilation afterward.

It is a good rule, when several children with measles are in one family to put each patient in a separate room. I do not tolerate the old practice of putting two or three patients in the same bed or even in the same sick-room.

Another important preventive measure is light. I believe it is generally recognized that darkness favors the development of germs, especially the respiratory infections. It seems best to keep our measles patients in a light and not a dark room.

There is one therapeutic principle that is firmly ingrained into the mentality of the adult; that is, to keep the patient with measles in a dark room. Why? To prevent injury to the eyes.

In all my many years of practice I have not seen a single case of blindness as a result of measles. The danger to the eyes is exceeding slight. True we often have a purulent conjunctivitis and suppurative blepharitis but these are clearly secondary infections and do not depend on light.

I keep my patients in a light room and when the parents object I point out to them the very slight danger to the eyes but the great danger to the ears, larynx and lungs.

When the eyes are very sensitive to light, the shades can be drawn down so that the light will be subdued during the first day of the eruption, as it is more comfortable to the patient, but as soon as this initial sensitiveness passes away, up go the shades. I always dread to have a patient with measles in the middle dark room of a flat. I believe we must relegate the old treatment of measles in the dark room to the graveyard of false conceptions, and educate the young mothers that measles should be treated in a light room, and that light is not harmful but beneficial to the patient suffering from measles.

Measles is best treated in the home. This is one disease that is not favored by hospitali-

zation; on the contrary statistics from hospitals and asylums show a very high mortality (up to 20 per cent.).

In my series of 324 cases there were two deaths, or a mortality of 0.6 per cent. One baby died of pneumonia and empyema, another young child died from a laryngeal stenosis.

Holt gives the mortality of measles as 4 to 6 per cent.

In conclusion, a summary: We cannot prevent measles; the child should become immune to measles before he reaches the adult life. We must prevent secondary infections by isolation from everyone except one person who is healthy, by proper ventilation, good nourishment and light. The mortality of measles is not high when these conditions are fulfilled.

536 N. Taylor Ave.

THE MANAGEMENT OF UNDERNOURISHED INFANTS*

HENRY DWIGHT CHAPIN, M.D.

NEW YORK.

The undernourished infant forms a very important problem. The early months and years of life are, physiologically considered, the most important ones we live. The beginning organism has at this time stamped on it the possibilities of future vigorous growth or of early degeneration.

A survey of infant mortality opens up questions of great social importance. A glance at some of the data collected by the Bureau of the Census will make this clear. The mortality under one year per 1,000 births during 1913 was 179.0; in 1921 it had dropped to 75.6. A further examination shows that these brilliant results occur only after the first month. Almost half the deaths during the first year occur before the ending of the first month, and there has been no appreciable lowering of the mortality under one month during the past years throughout the whole country. It is likewise shown that about one-third of all the babies born die during the first month of life, largely due to lack of proper food. Early mortality is principally owing to congenital defects, to nutritional failure and to diarrheal and respiratory diseases.

A heavy mortality predicates a heavy morbidity. This question assumes importance, not only from those who die, but from those who live. A devitalized baby often means a poorly developed youth. It is frequently difficult, sometimes impossible, to compensate in later years for nutritional defects at the opening of life.

*Synopsis of address delivered at Kansas City before the Annual Fall Clinical Conference of the Kansas City Clinical Society, October 9, 1923.

Although the general mortality records of infants show improvement, there is still much to be done. It has been estimated that 250,000 American infants die during the first year of their lives. As such a large proportion of these infants die during the first month we must concentrate our efforts on this period. Future improvement must lie largely in correcting this condition. The general decline heretofore noted has been aided by such factors as prenatal oversight and natal care, more breast feeding, baby health station service, improvement in the production and handling of cows' milk, greater care in municipal sanitation, visiting nurses, and better control over communicable diseases. Of these ameliorating agencies, the first two mentioned, *i. e.*, prenatal and natal care, and breast feeding, are the most important as concerns the first month. Although the former is under the control of the obstetrician, much more attention should be paid to this period. With this in view it will be desirable to establish maternity health centers through the country with physicians in charge as well as nurses especially instructed in prenatal care so that every expectant mother may have supervision, instruction and aid that will favor the birth of a normal child.

The development and functioning of the human breast are of overwhelming importance in conserving infant life and health, especially at the beginning. It has been estimated that six bottle babies die to one fed at the breast. The artificially fed baby more frequently shows signs of malnutrition than one nursed by its mother. We are only just beginning to realize how breast feeding can be stimulated beyond any idea we have hitherto held. With suitable care and manipulation, results can often be obtained that are little short of marvelous. Maternal nursing is the great outstanding factor in the reduction of infant mortality and morbidity. If only the breast can be conserved, many otherwise unfavorable hygienic conditions may exist and be tolerated as far as the infant is concerned. The two outstanding factors in successful management of the breast are regularity of feeding and complete emptying of the breast at each feeding. Even where the secretion is poor, the infant should be put on both breasts at the regular feeding times. This should be done if even only a few drops are at first secreted and a complemental bottle feeding must then be employed. After the baby gets all it can or will take, manual expression of any remaining milk in the breast is to follow. This is accomplished by starting just back of the areola and stripping toward the nipple. The complete emptying of the breast with every nursing is one of the most effective means of increasing its satisfactory functioning.

One trouble is that many infants do not completely empty the breasts, as the sucking reflex may be lacking in vigor. In such a case, the manual expression of the last few drams or even drops after the baby has finished will gradually make the milk flow easier and in larger amounts.

In recent years, and with increased knowledge of how best to manage the human breast, the plan of removing the milk and furnishing it apart from the mother has given good results. The best method of handling this work is to have it linked up with a maternity hospital. In the absence of such an undertaking in New York, the Directors of the Children's Welfare Federation started an experiment in 1921 to procure and distribute a certain amount of breast milk to aid critical cases.

The health stations of the Department of Health are utilized in procuring the milk. Only mothers who have more milk than needed by their own babies are used. The baby has to be under the care of a physician and nurse in the health station and the case recommended by them. The mother may come in once or twice a day, and if she lives at a distance car fare is paid if she can furnish ten or more ounces. The supply is fluctuating, as it is affected by the many different factors such as sickness of the mother or her baby, company at home, bad weather and visits to relatives. We have had as many as ten mothers at a time, but the average has been only five or six a day. It has been found that lactation may be prolonged for fifteen or eighteen months and that the composition of the milk between the ninth and eighteenth months varies little from that produced between the sixth and ninth months. Assays of the pooled milk made at intervals show that the ingredients are fairly uniform. From October, 1921, to October, 1923, we have collected and sold at cost 45,690 ounces. The milk is pasteurized as no Wassermanns are done. The milk costs us 13 cents an ounce, 10 cents being paid to the mother and three cents going to overhead charges.

We have sold the milk to 13 institutions and 43 private persons referred to us by hospitals and physicians. It is intended to have the milk furnished particularly to premature infants and those suffering from marasmus, and it can be said that milk has been given to at least 100 babies during 12 consecutive months on an investment of \$10.00 for each baby to save its life. Our supply has been so limited that it has been used only in emergency cases.

Every locality having a maternity hospital or a community health center should inaugurate a similar undertaking. We have found that human milk, if procurable, can be as advantageously fed from a bottle as directly fed from

the breast, and that any period of lactation can usually fit a baby at any age. It is especially during the first month that infant mortality may be materially reduced by this kind of effort.

51 W. 51st Street.

HELIO THERAPY AND JOINT TUBERCULOSIS*

ARCHER O'REILLY, M.D., F.A.C.S.

ST. LOUIS

Tuberculosis of the joints is a serious affliction. Under the most favorable conditions it is of long duration; very few cases of true joint tuberculosis are cured under two years and many last much longer. Crippling and deformity are in all cases present to a greater or less degree. In combating this disease, then, every aid must be sought, and of these one of the most valuable is heliotherapy.

Heliotherapy in the treatment of tuberculosis was brought into prominence by Rollier of Leysin, Switzerland. Leysin is a village in the Swiss Alps at an altitude of 4500 feet. A high altitude, however, is not necessary for heliotherapy. Rollier says, "Sun cure may be carried out wherever the sun shines—on sea-level, by the seaside, on the mountains. If we have chosen the high mountains in which to erect our clinics, it is because the Alpine air and sun bath may be there taken during each month of the year, thus permitting uninterrupted cure, maintaining the body at its maximum vitality and power of defence."

The theory of heliotherapy can best be given by a summary from one of Rollier's recent papers.¹ In addition to the exposure to the sun, the entire body is also exposed to the fresh air and it is this combination which is usually meant when we speak of heliotherapy. "Open air life, so eminently reconstructive, associated with complete sun baths—that is, the direct action of the sun over the entire surface of the teguments—constitutes the most energetic of excitants and tonics. As the same time heliotherapy realizes the rational local treatment, adding to its reconstructive action on the body, the analgesic, bactericidal, scleroginous and reductive effect of the solar radiations."

There are two actions of sun light; (1) the direct action, (2) the indirect action.

Comparatively little is definitely known of the direct action of sunlight. The ultraviolet rays have a very definite bactericidal value, but they do not penetrate the skin to any great depth. The infra red rays have a bactericidal value

also, and by their longer wave length can penetrate to a greater distance.

The indirect action of the sun is very much better understood. The violet and ultraviolet rays cause erythema and pigmentation, and are absorbed by the capillaries of the skin, dilated by the sun's rays. Pigmentation plays a very important part in heliotherapy. It acts as a protection against excessive violet rays and also regulates the thermic share of the sun. Also the pigment probably receives, supplies and increases the activity of the elements essential to the metabolism of hormones. The light absorbed by the blood changes it into a receptacle of radiant energy. "Transferred into the whole organism this energy hastens the intracellular processes of oxidation and reduction, thus modifying the whole metabolism. Consequently, in this way, the defense of the organism exposed to the beneficent action of the sun is progressively increased, making it better fitted for the fight against tuberculous infection."

The action of the sun on the skin, associated with air baths—which are essential for the proper physiological action of the skin—promotes its function, and increases circulation. "The sun baths, enlarging the capillaries determines an afflux of blood towards the skin; this ameliorated and regulated circulation of the blood helps to make the musculature remarkably firmer, better than the best massage would make it; thus the body finds again its natural harmony. The tonic power of the sun manifests itself also on the thoracic and abdominal organs; under its influence haemoglobin increases, internal secretions accentuate, digestive functions become regular, weight increases, strength is renewed. The sun not only acts on the physical side, it has a most efficient effect on the mind and the character of the patients. This is of great importance when one remembers how much this influence reacts on the physical, especially with patients who have to remain a long time confined to bed."

Rollier says Heliotherapy can be used wherever the sun shines. Its value has been demonstrated not only in joint tuberculosis, but also in all other forms of tuberculosis and it is also of great value in rickets.

The climate of St. Louis and vicinity is very well suited for this treatment. The season when exposure is possible is long, running from March usually until about the first of November. The percentage of sunshine is greater than most other parts of the country, so that we have almost ideal conditions.

I should like to illustrate the technique of heliotherapy by describing the method used at Ridge Farm, the country branch of the St. Louis Children's Hospital. Here we have been

*Read before the St. Louis Med. Socy., May 1, 1923.

1. The Share of the Sun in the Prevention and Treatment of Tuberculosis. A. Rollier. British Medical Journal, October 21, 1922.

using heliotherapy for three years with marked success.

The technique is rather exacting, and in order to secure the best results must be followed closely. Insolation is begun as soon as the weather permits in the early spring, usually toward the end of March. Treatment is continued daily, except in bad weather, until the cold and rainy days of the fall. A definite scheme of exposure is followed according to Rollier's chart.

It will be seen that segments of the body are successively exposed, increasing five minutes a day until the entire body, with the exception of the head, has been exposed. After this, exposure is increased daily by five minutes until an exposure of from two to three hours twice a day is being given. During the process the body becomes deeply pigmented. Care must be taken that the patients do not become blistered. Light-complexioned children are more subject to blistering. The head should be protected by some type of shade, and with patients who are lying on their backs it is well to protect the eyes with colored glasses. Heliotherapy should be given in the early morning and late afternoon, and not in the hot midday. Headache, rise of temperature and other symptoms indicate that there has been an over-exposure, and the length of treatment should be cut down or it should be stopped entirely. If treatment has been interrupted it should be resumed again, with a reduced amount of exposure. As treatment progresses the clothing is removed with the parts exposed until a loin cloth is all that is worn. At Ridge Farm children receive the air bath when not receiving the sun bath.

At Ridge Farm the majority of the cases are tuberculosis of the spine and hip. These are divided into bed and ambulatory cases. The regular orthopedic treatment of immobilization is strictly maintained. Of the spine cases, the majority are bed patients. Immobilization is secured by keeping the patient on a Bradford frame. We have found, however, that most of the children will lie quietly on the frame while taking treatment so that it is usually unnecessary to strap them to the frame in the usual way. Thus more of the body is exposed to the sun. During treatment they are turned, exposing the back and the front to the sun equally.

In tuberculosis of the hip, the bed patients are on a Bradford frame with traction. The method of exposure is the same as with tuberculosis of the spine.

The ambulatory cases are given the same amount of exposure, but they are allowed to play around in the sun and wear only a loin cloth. Immobilization is secured by braces. In the hospital and clinic a plaster of Paris

jacket is used in all cases of Potts disease, but at Ridge Farm a simple back brace is employed. Here the patients are under closer supervision, and the brace allows greater exposure to the sun and air. A Bradford abduction hip splint is used in all hip cases.

Tuberculous sinuses are exposed last to the sun. The dressings are either removed entirely or they are protected by a layer of gauze. Our experience has been the same as in other places, that the discharge is at first more profuse, and then gradually becomes less until the sinus closes.

All cases are weighed once a week. I give two charts which are fairly typical. Both of these patients were in the hospital for several years and for convenience the charts have been condensed to show the weights at monthly intervals.

The general condition of the patients improves. They soon become pigmented and show a healthy brown color. The muscles are firm, the haemoglobin and red count increases. Atrophy of the muscles is less.

One of the most interesting features is the very general desire for treatment. When spring arrives, the children are all most anxious to begin. They seem to acquire an immunity to cold, and a desire to be exposed, so that even in the cold days of winter, it requires constant watching to prevent them from throwing off all their clothes. In the spring and especially in the fall after a season of heliotherapy they can stand considerable cold without suffering in any way. They are also less subject to head colds than children who have not had heliotherapy. Frequently in the fall when there has been a sudden fall in temperature the children who have not had heliotherapy will develop colds while those who have had insolation will remain free.

An institution, however, is not necessary for the administration of heliotherapy. It can be used wherever there is sunlight, and if the parents are at all intelligent it may be quite successful. In joint tuberculosis the immobilization of the joint should be followed out as carefully when using heliotherapy as at any other time. The patient can be kept on a Bradford frame. This can easily be carried to a porch for exposure to the direct rays of the sun. If a porch is not available the yard can be used. It is preferable, however, to have patients out of doors, as in that way they get the benefit of the sun and air. It is not desirable, however, to expose them through a closed window, as the window glass tends to cut off the violet rays.

Briefly, then, we may say that heliotherapy is of great value in the treatment of joint tuberculosis. Its action is due to the stimulating

effect of the violet rays and accompanying air baths, which improve the general condition and render the organism more capable of resisting the tuberculous infection. Heliotherapy does not need an institution for its administration, it can be used effectively at home. It does, however require intelligence and care, and the routine must be followed closely. It can and should be used wherever the sun shines.

3534 Washington Ave.

CARCINOMA OF THE CECUM AND ASCENDING COLON

W. S. WIATT, M.D.

ST. LOUIS

In a masterful discussion of the etiology of cancer, MacCarty states that "Literature and experience are strangely devoid of authentic examples of rests in the common sites of cancer."

This is strong evidence against the prenatal cell rest theory. Cells which normally produce columnar epithelium may produce squamous epithelium when placed in a position where squamous epithelium is demanded for protective purposes. Protoplasm adapts itself to its environment. This is aptly illustrated in the bone transplant which produces new bone, this new bone undergoing physiologic hypertrophy as a matter of necessity to perform the function of the bone it replaces.

There is a difference of opinion among embryologists as to the origin of the different layers of the blastoderm.

Hertwig maintains that the entoderm and mesoderm are both derived from the cells of the ectoderm.

Pathologists have difficulty at times in differentiating epithelioma from sarcoma. Experiments conducted by Ribbert, Thiersch and others consisted in the transplantation of embryonic and adult tissues into the normal organs of animals of the same and different species; and the artificial misplacement of cells and tissues in animals in their embryonic stage. In all cases in which the cells or tissues lived, the cells remained or became differentiated into the cells of the normal tissue from which the injected or transplanted cells were taken. The transplanted tissues ceased growing and in no case was a typical neoplasm produced.

At his jubilee banquet, Nicholas Senn made the statement that he had never asked an assistant to perform a task that he would not himself perform. To illustrate, he said, "One morning after excising an epithelioma of the lip, he suggested that it be transplanted to the arm of the assistant and thus prove his

(Senn's) contention that cancer was not a parasitic disease. The intern refused and Senn had the growth transplanted to his own arm, but it did not live and reproduce its kind. Erlich and others have successfully transplanted cancer in mice.

In 846 cancers of the breast studied by MacCarty, every case was associated with a definite chronic mastitis. Chronic irritation has long been known to be a potent factor in the production of cancer.

Carcinoma of the lip, mouth and tongue in tobacco users and betel nut chewers, carcinoma of the gall bladder due to stones; of the stomach following ulcer; of the cervix uteri following laceration, are striking examples.

Self-preservation is the first law of nature and oft repeated insult offered to epithelial cells excites proliferation as a conservative process to prevent annihilation of their kind. In conformity with a fundamental law of nature, more cells are produced than are necessary for the repair of the injury. The frequent repetition of the insult finally stimulates that lawless proliferation with migration of cells, which is characteristic of cancer.

Is carcinoma nature's response to oft repeated insult? Or is the injury only incidental in creating a locus minoris resistens for the entrance of the as yet undiscovered parasite of cancer?

The function of the basal celled layer of the skin is to reproduce the epidermis when it is destroyed. Cytologic life takes precedence over organic life. The cell conforms to this law when it exhibits the tendency to lawless proliferation; which eventually destroys the organism.

From an evolutionary point of view, the large intestine is younger than the small intestine and seems to offer less resistance to cancer.

In 1498 cases of carcinoma of the gastrointestinal tract operated on at the Mayo Clinic, 216 were in the colon and 16 in the small intestine.

The right colon is a storage receptacle in which 50 per cent of the liquids and 10 per cent of the solids taken are absorbed. The elevation of the splenic flexure and the reversed peristalsis which Cannon has shown to exist in the large intestine of the cat are significant and suggest the storage and absorbing function of the ceco-colon. F. T. Murphy and Maucaire confirmed the findings of Cannon by making the observation that a cecal fistula did not close when the ileum was anastomosed with the transverse colon.

Rieder concluded after making X-ray observations that anastalsis does occur in the cecum; ascending and proximal transverse colon.

In the embryo the right colon contains villi like those of the small intestine. These villi later disappear but the ceco-colon still retains absorbing power.

In certain lower animals there is a sphincter in the ascending colon and it is possible that the hepatic and splenic flexures have a similar function in man. Primarily the colon, a well-developed organ in herbivora, was intended as a storage receptacle for vegetable matter; but in man it has an important part to play in the process of absorption.

In the last century man has quadrupled his flesh intake; all of the proteid is not absorbed in the small intestine, hence some of it reaches the ceco-colon, where it decomposes giving rise to toxic products, the absorption of which cause the symptom complex known as colon stasis. The prolonged residence of toxic irritating material in the ceco-colon is no doubt an exciting cause of carcinoma.

Heidenhain was one of the first to demonstrate the spread of cancer through the lymphatics. He made from 11,000 to 17,000 serial sections from eleven breasts.

C. H. Mayo in 1903 called attention to the progressive atrophy of the lymphatics after adolescence and offered it as an explanation of the slow metastasis of carcinoma in the aged as compared with the rapid metastasis which takes place in youth.

Accurate anatomical knowledge of the lymphatic system and the conception of Heidenhain that carcinoma was disseminated through it, enabled Doctors Halstead and Willy Meyer to evolve the radical operation for cancer of the breast, which consisted in a wide excision of the growth with a block dissection of the lymph-bearing area.

Radical operations for carcinoma elsewhere in the body are simply utilizations of the Halstead-Willy Meyer idea.

Humanity is fortunate in that the relative frequency of carcinoma in the large and small intestine is in inverse ratio to the number of lymphatics.

Deaver estimates that there are 150 mesenteric lymph nodes in the lymph-bearing area of the small intestine and only 30 mesocolic lymph nodes in the lymph-bearing area of the large intestine. This explains the tardy metastasis of carcinoma in the large intestine.

Frequently lymph node involvement is due to infection rather than metastasis. This fact has an important bearing on the operability of carcinoma in the colon. The presence of enlarged mesocolic lymph glands does not always justify a hopeless prognosis.

4506 Lewis Place.

CASES.

CASE 1.—Mrs. K., white, female, aged 37 years. In June, 1914, first noticed a sudden *twisting* pain in right iliac region. The pain was paroxysmal and each attack lasted from one to three minutes. In September, 1914, she began to have nausea and vomiting with the attacks of pain. Flatulence after meals was a constant symptom. Patient lived on milk from September, 1914, to December, 1914. If solid food was taken, the pain was unbearable. Began taking castor oil in June, 1914, and after September 5, 1914, took one ounce each day. Patient had diarrhoea before beginning to take the oil. On December 1st, 1914, noticed streaks of blood in the stools. At this time straining and severe abdominal pain were present before and during each bowel movement. Bowels moved six or eight times a day. For one month before operation, patient was bed-ridden. Pain was intolerable when on her feet.

Examination December 20, 1914. Patient emaciated. On deep palpation mass could be outlined low down in right iliac region. Bimanual examination revealed mass in right side of pelvis extending above the brim.

Operation December 22, 1914. Through a muscle splitting incision at the median border of the right rectus, the abdomen was opened and a mass the size of a small orange found involving the ileocecal junction.

After ligating and dividing adherent omentum it proved to be an intussusception. The cecum and ascending colon constituted the intussuscipti and the ileum and ileocecal valve the intussusseptum. With considerable difficulty the intussusception was reduced. It was then possible to palpate a growth through the wall of the cecum. The ileum was doubly ligated and divided twelve inches proximal to the ileocecal valve. There was an enlarged lymph node in the mesentery of the ileum and it was impossible macroscopically to tell whether it was calcareous, inflammatory or carcinomatous, hence the sacrifice of so much small bowel.

The parietal peritoneum was divided from the external iliac vessels to the hepatic flexure, the line of division being about one inch external to the cecum and ascending colon.

The ceco-colon with fat and lymph nodes was then dissected free with the gauze-covered finger as far as the median line. The transverse colon was doubly ligated and divided distal to the hepatic flexure.

The ligated stumps of the transverse colon and ileum were each buried with a purse string suture of silk and a lateral anastomosis was done. The gall bladder was inspected during the operation and found to be full of stones.

After a stormy convalescence the patient left the hospital on the 25th day following the operation.

On January 20, 1915 patient began having "cramps" in the abdomen. She took one ounce of castor oil every three hours and on the morning of the 21st began vomiting a green fluid. There was no bowel movement from January 19, 1915 to January 22, 1915. Patient took six enemas during this time. The writer first saw her on January 21st, 1915. Pulse, 120. Vomiting green fluid frequently. Abdomen distended.

The problem to solve was whether we were dealing with a gall stone colic or a mechanical ileus. The abdomen was opened at 11 p. m., January 21, 1915, and a loop of small bowel was found to be adherent to the stump of the mesocolon in such a way as to acutely kink it and obliterate its lumen. The adhesions were divided, raw surfaces covered with peritoneum and the abdomen closed. The gall bladder was not drained as the patient was in extremis. Since recovery the patient has been perfectly well except a slight diarrhoea at times. The path-

ologist reported that the growth was an adenocarcinoma.

CASE 2.—Mr. S., white, male, age 63. Has been ill six months. Severe pain in abdomen, paroxysmal; slight relief on passing gas. Vomiting spells lasting eight or ten hours at a time. Hypos of morphine gave temporary relief. Bloody stools were passed for two or three days at a time and then the blood would disappear from the stools for ten or fifteen days. Patient was constipated at times and had diarrhoea following the periods of constipation. Lost 50 pounds in weight in the last six months.

Examination. Patient shows evidence of disturbed metabolism. Coarse peristaltic waves observed over abdomen. Right half of abdomen tympanitic on percussion. Colicky pains, acute when peristalsis is most marked. Movement of gas in tympanitic area gives temporary relief. X-ray examination negative. August 5, 1918, abdomen opened through a muscle splitting incision at median border of right rectus. Growth located in middle third of ascending colon. Cecum and ascending colon excised with the same technique as in the first case. A lateral anastomosis was done between the ileum and transverse colon. Gastric lavage was required following the operation, as nausea and vomiting persisted for several days. Patient at present is feeling fine. All the old symptoms have disappeared and he has gained 50 pounds in weight.

Pathological examination by Dr. George Ives.

Specimen consists of a cecum, ascending colon and a portion of small bowel.

In the ascending colon there is an area showing ulceration and thickened mucous membrane. No evidence of tumor. The lymph glands are enlarged, but show no tumor. Sections through thickened mucous membrane show carcinoma of the solid type. Sections of lymph gland, negative for carcinoma.

LITERATURE

- Mayo, W. J.: Collected Papers, Mayo Clinic, 1910, p. 135.
 Mayo, W. J.: Collected Papers, Mayo Clinic, 1912, p. 135.
 Mayo, W. J.: Collected Papers, Mayo Clinic, 1912, p. 142.
 MacCarty, Wm. C.: Collected Papers, Mayo Clinic, 1910, p. 246.
 MacCarty, Wm. C.: Collected Papers, Mayo Clinic, 1915, Vol. VII, p. 885.
 Mayo, Wm. J.: Collected Papers, Mayo Clinic, 1914, Vol. VI, p. 186.
 Deaver, J. B.: Surgical Anatomy, Vol. III, p. 395.
 Cannon, W. B.: Transactions Section Surgery, A. M. A., 1912, p. 124.

THE OUT-PATIENT NEUROPSYCHIATRIC CLINIC AS A FACTOR IN VOCATIONAL REHABILITATION*

F. M. BARNES, JR., M.D.

Consultant Neuropsychiatrist, U. S. Veterans' Bureau.

ST. LOUIS

Some time last fall I had the opportunity of talking to this Society on the subject of vocational rehabilitation of men with neuropsychiatric disorders as such work is being attempted by the United States Veterans' Bureau. On that occasion I made reference to the fact that an out-patient clinic for the handling of these disorders would soon be established by the Bureau in St. Louis. That clinic came into existence early in January of this year and it is concerning its rôle in the rehabilitation program that I wish to speak this evening.

*Read at the regular meeting of the St. Louis Neurological Society, April 30, 1923.

An approach to rehabilitation through vocational channels necessitates at least two fundamentals. First, the selection of the proper objective; and second, the supervision of the trainee. When we enter upon the question of vocational guidance we step at once upon quickmire. Do we know anything at all of vocational guidance? Has there been any procedure other than that of hit and miss by which we all have today been placed, by which we have attempted to direct one's vocational destiny? Stop for a moment to consider by what pathway you have yourself reached your present vocational status. It is practically a certainty that you selected your present work primarily because it had some appeal, because you thought you would like it, and not because of any depth of study of your own fitness to carry it on. Did you ever receive any definite advice which might be in any direct way looked upon as vocational guidance? The vast majority of workers are but mediocre in their attainments in their given vocation. Only a comparatively few stand out as essential successes. Is there not much room then for improvement in our present system which results in so large a proportion of relative or absolute failure?

Though from our industrial relationships we are considering men who have already indicated their vocational preference, does it follow that such vocation was properly chosen for and by the individual in question? Would it not be possible to prevent some of our industrial failures if the worker could be in some way properly selected for his vocation instead of having it learned by wasteful trial on the job that his personality and capacity were entirely unsuited to the particular work attempted? In other words, what possibility is there of vocational guidance as applied to our working condition? What mental or physical peculiarities of a man adapt or maladapt him to a particular variety of work? In order to answer these questions we must have a thorough and complete knowledge of the man himself, not only as to his physical condition but more so as to his mental type. To match with this we must have an equally thorough understanding of the requirement of the job in question, the character of the work to be done, the requirements in manual dexterity, initiative, steadfastness, planning. In other words, we must study as carefully the work to be done as the individual who is to do it.

The war and its attendant compulsory military service has provided the opportunity and necessity for considering very carefully this vocational factor in our existence. Thousands of men have been in one way or another and in varying degree disabled so that their ca-

capacity to carry on in their pre-war occupation has been to some extent impaired. In the endeavor to rehabilitate these men not only are we enabled to study their fitness and efficiency in their pre-war occupation but we are given a large opportunity to try out in practice some of our principles of vocational guidance, if there be any such, or, to establish new ones if they should seem desirable.

From the viewpoint of vocational guidance, as it applies particularly to the rehabilitation work of the Veterans' Bureau, it is first essential that we should have a complete understanding of the men to be trained, and with the neuropsychiatric case this must necessarily include a detailed information of the character of the neuropsychiatric disability by which he is handicapped, and in what way this will work to affect his vocational capacity. This means, to repeat, a sufficiently thorough and detailed report of the neuropsychiatric examination together with personality studies of the individual under consideration, these taking into consideration his pre-war occupation, what advances he has made in it and his original fitness for such work. Next would come the selection of the vocation, and this is the most difficult phase.

There are eight points necessary of consideration in determining a vocation: (1) What importance to society has the occupation? (2) What things are actually done by the person who is in this calling? (3) What are the main advantages of the occupation? (4) What are its disadvantages and problems? (5) What preparation is necessary or desirable? (6) What are the other requirements for success? (7) What income may be expected—at first and later? (8) What effect has the occupation on the vocational, civil, physical, recreational and moral life of the worker? In reviewing these eight points, it would appear that they may be divided into at least two groups. The first group, including the first six, has to do primarily with the consideration and choice of vocation, while the second group, including the last two points, has to deal primarily with the results which may be expected from the vocation selected.

In a way, those in the Bureau made responsible for advisement as to objective, that is, vocational guidance, consider most of these points, although not perhaps in a formal manner. It is possible that not enough emphasis is at all times placed upon some of them. It is doubtful, for instance, if what is actually done by a person in a given vocation is sufficiently fully considered in conjunction with his disability and the limitation which such disability places upon the man. For instance, a lathe

hand handicapped for this vocation because of flat feet placed in training as a barber shows lack of consideration for the disability and the nature of the work which the man would have to perform. Many other less striking examples might be cited to illustrate that the disability is oftentimes too little considered in choosing the objective which from other points of view may be a perfectly desirable one.

The question arises as to whether or not any of us have had sufficient experience to have gained the knowledge which would make possible an adequate sizing up of a neuropsychiatric disability and its relation to vocational capacity. Given a certain understanding from the medical standpoint of a man's disability because of nervous or mental disorder and its relation to his capacity to work, can we safely predict on this information and our knowledge of vocational requirements whether or not this given man may be able to carry on? Our experience of the past couple of years would indicate that we could not. It has been realized that something more must be had in the sizing up of the man to determine his vocational capacity, something which would approach more nearly a laboratory experiment with each doubtful individual. With this belief in mind the Bellevue Vocational School was established and has been operated as a try-out project.

Even though we knew far better than present facilities permit of the personality and effect of neuropsychiatric disorders upon it with which we had to deal, we could not satisfactorily select a vocational objective in the majority. At least, knowing the man's disability and what that medically means, we must further study vocationally the man who has this disability and this can only be done under adequately controlled circumstances. The study must embrace not only a couple of hours a day while on the vocation selected but the other hours of work and play, in other words be practically continuous. The man must be tried out in a prepared environment on a selected objective and in such a way that the objective may be changed without too great a loss of time if not at first successful and satisfactory.

In the beginning it was stated that the approach to rehabilitation through vocational channels necessitates at least two fundamentals, the proper selection of the objective and the supervision of the trainee. Let us see in how far these two fundamentals have been met by our training program and in connection with this inquiry what rôle the out-patient clinic may play in bettering the situation. During the past four months there has been under way a survey of all men with neuropsychiatric disorders in training in the St. Louis area.

This survey has taken into consideration information supplied by the training supervisor, the vocational medical officer, personal conference with the trainee and that obtained through examination.

I have picked up the first forty-four men so handled and the results are interesting even though they are far from encouraging in so far as rehabilitation is concerned. All of these forty-four had been in training for a considerable period of time, ranging from a few months to three years. Of the forty-four, five only were allowed to continue inasmuch as they seemed properly fitted and were making satisfactory progress. Thirteen were considered as not feasible for training under any circumstances and taken out to revert to a compensation (financial) status. The remaining twenty-six were transferred for further training try-out to the Bellevue Vocational School. In a number of those sent to Bellevue it was not anticipated that successful rehabilitation will result, but it is believed that a fair trial is necessary before the question can be conclusively answered. It should be stated that of these 44 men, the majority of them had been tried in one or several objectives unsuccessfully.

Of claimants admitted to Bellevue within the past 15 months we have selected the records (as of Nov. 15, 1922) of 63 who were in competitive training for a total of 489 months or an average of 7.76 months each before the realization of their lack of training progress was sufficiently intense to bring about action. The training pay basis is \$100 per month, in some areas \$125, not including school supplies, equipment, etc., furnished the trainee. At the basal figure of \$100 per month these 63 unsuccessful trainers cost the Bureau \$48,900. Comparing this with 240 trainees admitted to Bellevue we find with them a total training time of 503.6 months, or an average of 63 days each which at a per capita monthly basal cost of \$100 makes a total of \$50,360 so expended or only \$1,460 more than the cost for the 63 men above mentioned and these 63 got nowhere with their training, whereas 147 of the 240 were found feasible and of these only 17 had since broken down.

These comparisons show clearly enough that the two fundamental requisites, namely, proper objective and supervision, have not been provided in the training program. Objectives have in the past been chosen for a man with very little if any reference to limitations placed upon his capacity by the neuropsychiatric disorder. It is obvious that this phase of the subject is distinctly medical and yet it is only comparatively recently that properly qualified and numerically adequate neuropsychiatric personnel has been provided by the Bureau. And now there is talk of reducing this number.

Assuming that we had selected a proper objective for a man, what is going to happen to him in his training? If he had the right sort of stuff in him he would carry on and make good without any assistance from governmental agencies. But it is largely just because of this disability that he requires this assistance and supervision. As a matter of fact, however, the supervisory arrangements for our men in competitive training have been miserably inadequate and are even now very far short of what they should be. For instance, how is it possible for one traveling supervisor properly and thoroughly to know what is going on with 95 trainees under his care who are scattered in different places over a large part of the city? It is manifestly absurd to believe that any such procedure will ever lead to success. Of course, we come against difficulties here which are largely incident to a shortage of personnel.

Another comparison between the two modes of procedure now in effect, that is, the old competitive training as opposed to the Bellevue training may be briefly given here. To date (April 30, 1923) there have been 536 trainees entered at Bellevue of which 365 have been discharged, 232 of these as feasible for further training and 126 as not feasible for further training. Of the 232 feasible, only 29 have since been reported as having failed and have been permanently withdrawn from training.

With men disabled by neuropsychiatric disorders, in so far as rehabilitation is concerned, experiences have been such within the past couple of years that it has been concluded that, with certain special exceptions, the only way to satisfactorily determine an objective is by the method of actual trial in a prepared environment or school such as Bellevue. Further, it has been concluded that upon the discharge of such men from such a school to continue in further training that it is necessary they be supervised closely by an adequate and an understanding personnel. All along this line the out-patient clinic finds its greatest opportunity for assistance. In the first place through examination by competent neuropsychiatrists in conjunction with reports supplied on examinations from all other sections of the clinic a fair understanding from the neuropsychiatric and general medical standpoint of the man's disability in relation to his vocational capacity may be obtained. What cannot thus be gotten is amply supplemented by reports from the neuropsychiatric social service workers attached to the neuropsychiatric clinic. The man having been started in training, the clinic can, and most certainly should, continue to render assistance in the form of treatment for the trainee, thus avoiding to the maximum degree interruption of

training because of hospitalization. And the clinic should also be in close touch with the training supervisor in order that both may function as a single unit directing its energies towards the common goal, satisfactory rehabilitation.

910 University Club Bldg.

APLASTIC ANEMIA FOLLOWING NEO-ARSPHENAMIN.

—The case described by S. M. Feinberg, Chicago (*Journal A. M. A.*, March 25, 1922), is held by him to be one of aplastic anemia secondary to neo-arsphenamin administration. This case is reported because of the rarity of reports of the condition in the literature and because it points out one of the possible complications of neo-arsphenamin, which has thus far been chiefly overlooked.

DENTAL INFECTION SECONDARY TO ACUTE MAXILLARY SINUSITIS.

—Three cases are reported by John A. Glassburg, New York (*Journal A. M. A.*, March 25, 1922). When these patients first appeared, all had sound teeth. This was satisfactorily demonstrated by the combined findings of three different men: the dentist, the roentgenologist and the rhinologist. Each of the patients had a definitely diagnosed acute maxillary sinusitis, which was conclusively proved by pus being obtained from every one of the antrums. In addition, one patient had a pansinusitis of the affected side. Each neglected the proper treatment of the antrum and developed another acute attack, at which time a recently developed dental infection was discovered in addition to the antrum infection already present. In view of the close anatomic relationship of the antrum of Highmore and the teeth involved in each case, it seems to Glassburg to be reasonable and logical to conclude that the dental infection was due to the pus finding its way from the antrum to the teeth, and makes one believe that, if the proper attention had been given to the sinusitis at the right time, these teeth would in all probability have been saved.

PRESYSTOLIC MURMURS IN RAPID HEART SIMULATING MURMUR OF MITRAL STENOSIS.

—Ernest E. Irons, Chicago, and Alpheus F. Jennings, Detroit (*Journal A. M. A.*, April 1, 1922), record observations on three patients in whom there were heard murmurs similar to those of mitral stenosis and in whose hearts at necropsy no narrowing of the mitral valve was found. The report of a fourth case in which the presystolic murmur was noted in a large heart without mitral narrowing is added. The authors emphasize the fact that the recognition of such cases is important in the proper interpretation of physical signs and in the diagnosis of disturbances of the heart, and also is of theoretical interest in the determination of the actual time incidence and mechanism of production of the crescendo or rumbling murmur and thrill of mitral stenosis which terminate in a sharp or snappy first sound and have been commonly called presystolic in time, but which is really early systolic in time.

“IDEAL CHOLECYSTOTOMY.”—Because of a history suggesting cholecystitis, or because of the accidental discovery of gallstones, A. Murat Willis, Richmond,

Va. (*Journal A. M. A.*, April 1, 1922), does not believe that the patient should be subjected either to the chance of an accentuation of his discomfort or to a loss of a normal organ by an ill-advised operation. It has seemed to him that cholecystotomy, with the omission of drainage, is the ideal procedure in these cases. Three points are given especial mention: (1) the avoidance of unnecessary trauma to the gallbladder; (2) protection of the adjacent peritoneum from contact with the concentrated and, possibly, infected bile, and (3) tight closure.

CHRONIC OSTEO-ARTHROPATHY.

—The case reported by Clarence H. Hyman and T. P. Herrick, Cleveland (*Journal A. M. A.*, April 8, 1922) is of interest because of the age of the patient (28 months), the extent of the bone involvement, and the absence of any physical or laboratory findings that would indicate the presence of a primary disease. Neither do former observations nor past history account for the findings. The only clue found was that on both physical and roentgenographic examination the heart was definitely enlarged. The most remarkable thing on examination of the extremities was the marked thickening of all the long bones and the clubbed fingers and toes.

RADIUM VERSUS SURGICAL REMOVAL OF CARCINOMA OF THE BLADDER.

—In eight of ten operable cases of carcinoma of the bladder and in twenty inoperable cases, the tumors were removed by B. S. Barringer, New York (*Journal A. M. A.*, October 28, 1922), by radium. He asserts that radium removal is superior to surgical, because it can cope with inoperable cases. If a suprapubic radium removal is necessary, the time of operation is shorter and the kidneys are less disturbed by the operation. Postoperative or postradium recurrences can be better dealt with. Many so-called operable tumors can be removed intra-urethraally without any operation.

THE QUANTITATIVE DETERMINATION OF GLUCOSE AND LACTOSE IN BLOOD AND URINE.

—A new method of quantitative determination of glucose and lactose in blood and urine is described by William Thalhimer and Margaret C. Perry, Milwaukee (*Journal A. M. A.*, October 28, 1922). The total amount of sugar present in a sample of the unknown is first determined as glucose. The material is then heavily inoculated with *B. paratyphosus* from a twenty-four hour growth on an agar slant, and is incubated for forty-eight hours. The amount of sugar remaining is then determined by the appropriate method. If no reducing substance is left, only glucose is present; if there is still a reducing substance, this is determined as lactose, using a lactose standard.

UROLOGIC SURGERY IN PEDIATRICS.

—From a careful study of sixty cases, it is evident to Herman L. Kretschmer, Chicago (*Journal A. M. A.*, July 22, 1922), that various pathologic conditions in infancy and childhood are similar to the various urologic lesions found in adults. The diagnostic and therapeutic problems are identical. Hence there is no sound reason why these little patients should not be given the benefit of modern urologic diagnosis and treatment.

THE JOURNAL

OF THE

Missouri State Medical Association

FEBRUARY, 1924.

EDITORIALS

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

"A CONDITION THAT APPALLED"

Our caption is a quotation from the report of the Jackson County grand jury, January 11, which indicted Drs. Ralph Voigt and Date R. Alexander, of Kansas City, and Dr. Robert Adcox, of St. Louis, who were charged with having obtained money under false pretenses in connection with the diploma mill expose. Quoting further from the report of the grand jury as published in the newspapers, we can visualize the grand jury facing a condition of such chaos when attempting to find a statute to fit the crime that they were appalled at their impotency. Commenting on this condition the report of the grand jury says:

"We have made an investigation into the illegal practice of medicine in Kansas City and find scores of quacks are practicing unmolested. This is a matter in which every man and woman is interested vitally, and unrelenting warfare upon the part of all officials in authority should be waged against these criminals who prey upon the sick and afflicted. Unfortunately, we were confronted with a condition that appalled us; the laws of Missouri protecting the public are wholly inadequate. These crimes in Missouri are but misdemeanors while in most states they are felonies."

Coming from this source these words ought to arouse every citizen who has any thought whatever of the welfare of the people in his community to correct such an unhappy state of affairs. Kansas City is not alone in harboring this class of criminals who prey upon the sick and afflicted. We find them everywhere in the state, from the small village to the metropolis. The Missouri State Medical Association and its members in every county in the state have endeavored to impress upon officials for these many years, the need for adequate laws to punish persons who deliberately set out to make themselves rich at the sacrifice of the health and often the lives of the citizens of the state. Some convictions have been obtained;

many times the court and jury set the malfactor free, not for want of evidence of violation of the statute for practicing medicine without a license, but because the technicalities of the law seem so involved that it is easy for the offenders to escape. Says the foreman of the Jackson county grand jury in the report mentioned: "The jury was forced to wade through the technicalities of the law for two weeks before a charge could be found upon which to base an indictment."

After this tedious search through the statutes the jury could find no punishment for the offense more severe than a misdemeanor, and a misdemeanor is readily satisfied with a low fine or a short term in jail, which offenders of this class readily pay and then resume their former practices.

The grand jury, however, did not content itself with the drastic criticism of the laws concerning health protection mentioned above. Realizing how helpless the people are in this respect, the report requested, according to the newspaper accounts, that the "full force of authorities be used against the activities of quack practitioners and urged that state laws be passed."

Will the 53rd General Assembly heed the voice of this responsible body? How often has the Missouri State Medical Association begged and pleaded with the members of the legislature to enact laws sufficiently punitive to make the practice of medicine without a license unprofitable. A \$50 fine or a 30-day jail sentence—and the latter is seldom imposed—means nothing to criminals of this class, but 5 years in the penitentiary is an entirely different matter and would give the people some real protection against medical quacks and charlatans.

Is not the protection of the health of the people of the state of Missouri as important as the protection, say of the money the citizens own? To rob a person of money through forgery is a felony, a crime that is punishable by a term in the penitentiary up to ten years. To rob a person of his health or of his life through false representation of ability to treat the sick and afflicted is a misdemeanor punishable only by a fine, or imprisonment in the county jail, or both.

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

VOTE FOR AMENDMENT NO. 5

Again we call attention to the special election, February 26, to ballot on the amendments to the constitution submitted by the Constitutional Convention. We hope that the members

are now well informed concerning these amendments, for they have been discussed in these pages and in the newspapers for several months.

As citizens we should be ready to vote on all the amendments, but as physicians we must do more than cast our individual ballots on amendment No. 5. We hope that every member will use his best efforts to induce his friends and patients to support this amendment. Simple and clear as it is this amendment has aroused the antagonism of all those forces which have persistently opposed all progress of health legislation. These forces are endeavoring to create prejudice against the amendment and will use all their influence to prevent it from being adopted.

We urge all members to vote for the amendment and obtain as many other votes as possible. In the ballot the amendment reads:

Amendment No. 5.

"To amend Article IV by adding Section 58 thereto. Requires the General Assembly to provide by law for the safeguarding and promotion of the public health."

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

REREGISTRATION OF PHYSICIANS

The question of the annual registration of physicians in Missouri, as an effective means of preventing illegal practice by pseudo-physicians and persons who obtain the medical diploma and license by fraudulent means, was urged during the recent diploma mill scandal. The measure is distasteful to the reputable physician and condemned as a needless tax upon them for, of course, it cannot be enforced without a tax in the form of a fee.

This is a question that has agitated the profession in other states, notably in New York, since the exposure of the sale of medical diplomas, and in this state a bill may be introduced in the present legislature providing for re-registration of physicians. An editorial in the Long Island Medical Journal discussed the question with such completeness that we are publishing it for the information of our members. The editor of the Long Island Medical Journal says:

"The disclosure of the deplorable traffic in medical licenses in Connecticut led Governor Smith to call a conference of representatives of the New York State Medical Society, the State Department of Health, and the Department of Education in the executive chambers on December eighteenth to consider ways and means of weeding out illegal practitioners from New York State. Dr. Downing, of the State

Education Department, who is officially charged with the registration of practising physicians, explained that he has no up-to-date list of medical practitioners of New York State, and no means of securing such a list. It was suggested that he could obtain such a list by consulting the county clerks of the sixty-one counties of the state. The reply was that such a list gave no indication regarding who was now practising.

"The directory of the New York State Medical Society was suggested as a reliable source regarding the standing of practitioners. The answer was that while every physician on the Society's list was a legal practitioner, absence from the list was not an indication of illegality, for the list was founded primarily on the registration in the county clerk's office.

"It was the consensus of opinion of the physicians present, including the representatives of the State Medical Society, that the only practical method of obtaining an up-to-date list of medical practitioners was to require every physician to register with the State Department of Education. Nearly every representative of the State Medical Society who went to the conference was opposed personally to registration, and was in duty bound to carry out the instructions voted at the last meeting of the State Medical Society to oppose re-registration. The Medical Society representatives considered all the various means of securing an authoritative list of practitioners, and were forced to the conclusion that re-registration was the only practical solution of the problem.

"Physicians object to two features of the proposed re-registration: 1, its annoyance, and 2, its cost.

It is proposed that the first re-registration shall be made under oath and on presentation of the physician's credentials; that subsequent registrations shall be by application only; and that the failure to re-register shall not result in a forfeiture of the right to practice. It would seem that every physician would be willing to undergo the slight annoyance of registration for the sake of aiding the state to get rid of illegal practitioners. A further argument is that a physician should do something to protect himself against those who seek to deprive him of the patients on whom he depends for a living.

"Governor Smith admitted that the cost of re-registration should not be placed on the physician; but he pointed out the historical development of the state's system of licensure, and showed that practitioners in at least half a dozen professions were now paying a license fee without protest, and that to change the system in a year would result in confusion. It was practically agreed, however, that the fees

paid by the doctors should be placed in a special fund which should be used only for discovering and prosecuting illegal practitioners.

"It was further suggested that the duty of discovering and prosecuting illegal practitioners should be removed from the officials of county societies and lodged in the office of the state attorney general.

"The prosecution of illegal practitioners raises the question of what constitutes medical practice. It is proposed to enact a law clearly stating that medical practice shall include diagnosis as well as treatment; and that anyone who sets himself up as being able to treat disease shall present credentials of having prepared himself to make use of modern methods in diagnosing diseases. The proposed law would forbid the use of the title of "M. D." or "Doctor" by any one on whom the degree has not been legally conferred."

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

THE FIRST CONFERENCE OF THE KANSAS CITY CLINICAL SOCIETY OCTOBER 8-13, 1923

With all the unrest and uncertainty in political, commercial and professional affairs today, there is an increasing appreciation of the need of a greater degree of efficiency in all human effort. Independence of system and disregard of one's fellow if continued must result in imperfection, chaos and anarchy. Cooperation between individuals and various groups having a common purpose and end in view is the order and spirit of the day, especially in medicine.

The Clinical Conference recently held in Kansas City is a case in point. Here for over a period of four days there were congregated from Missouri and the surrounding states of Nebraska, Colorado, Kansas, Oklahoma, Texas and Arkansas a thousand earnest, high type physicians, for the purpose of conferring with the local profession upon the progress of medicine, the character and methods of Kansas City's hospitals, and to listen to important messages from some fifteen eminent specialists, guests from the leading medical schools of the country.

The value of such a conference is inestimable and will result in benefit not only to the lay public of the whole Southwest, but to the several hundred members of the local profession who gave of their money, time and ability; to the visitors who brought and took away enthusiasm in their work, and to the lecturers who had from their larger experience and established resources an opportunity to instruct

and to inspire their colleagues of another section.

The fundamental problems of public health, both on the physical and the psychological sides, are now being given more consideration than ever before. Knowledge of such matters, even in a technical way, are broadcasted and enter every hamlet and every home of this broad land. And the knowledge or facts bearing upon such often precede the physician, much to his discomfiture and not infrequently to the layman's harm. Thus there has developed the desire on the part of the distant or segregated physician for better training and increased opportunity, and the need on the part of the community, be it county or village, of a hospital or better means to prevent or to cure illness and injury, wherever they may occur.

Thousands of miles cannot be traversed to the largest and oldest medical centers by every physician, but new and large centers contiguous to a populous and important territory with large and numerous hospitals and an abundance of clinical material available for study can and should be made use of, just in the way initiated in the municipality of Kansas City by The Clinical Society. Both as an opportunity for post-graduate and clinical study for the profession of the Southwest, and as a stimulus to better work and even the establishment of clinics and county hospitals in distant sections, the first conference has justified itself and its annual recurrence.

Specifically this section was most fortunate in having present such men among surgeons as Dr. John B. Deaver, of Philadelphia; pediatricians and orthopedists, as the socially-minded and skilful Dr. H. D. Chapin, of New York, and Dr. Joel E. Goldthwait, of Boston; such brilliant teachers as Lewellys F. Barker, of Johns Hopkins, and Reuben Peterson, from Michigan; and numerous others of the various specialists who have contributed much to the relief of afflicted and suffering humanity.

The Conference and Clinics gave the local men the greatest opportunity in the medical history of Kansas City to demonstrate their power of organization, their generosity of spirit and in addition to show graphically what part the Kansas City profession is taking in the scientific and ethical practice of medicine. The execution of the conference was most creditable, and the officers deserve the highest commendation for the long and faithful hours which they gave to it. The hospitals of the city and the members of the Clinical Society deserve credit for the abundant and well presented cases offered for study and consideration.

Acknowledgment should especially be given to the Commercial Club of Kansas City for

assistance in advertising and in organizing of the mechanics of the conference.

A feature most valuable and aiding materially in the financing of the conference was the Exhibit Section, which was well directed and creditably supported by pharmaceutical, publications and allied manufacturing houses, as well as by the hospitals and research workers doing special kinds of study in pathology, X-ray and metabolism. This department is practical and under careful direction will become one of the important divisions of the conference.

The Kansas City Clinical Society thanks the profession of the Southwest for its response to its invitation. It hopes their time and money were well spent. It invites you back again and hopes that its future efforts may be greater in results than those of the past.

NEWS NOTES

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

ON Saturday, January 12, 1924, Dr. Glover Hancock Copher, of St. Louis, was married to Miss Edith Marjorie Hulsizer, at St. Louis.

THE Massachusetts Medical Society is arranging to oppose the passage of a chiropractic bill which will be introduced in the forthcoming session of the legislature.

DR. GEORGE H. EWELL, who has been practicing at Carrollton for some time, has moved to Kansas City, where he will be permanently located. He is clinical assistant in pediatrics at the Christian Church Hospital, Kansas City.

THE friends of Dr. L. C. McAmis, formerly of St. Louis, who has been living in Colorado for the past two years on account of his health, will be glad to learn that he has established himself in San Diego, California, where he will resume active practice, limiting his work to surgery. His offices are in the Commonwealth Building.

ACCORDING to the newspapers Chicago will have a hospital plant to cost \$25,000,000. The plan contemplates the erection of the plant on the Alexander McKimlock Memorial Campus of Northwestern University, to be erected in conjunction with the Wesley Memorial Hospital. Mrs. Montgomery Ward announced that the three million dollar gift recently made

by her for a medical center in memory of her husband would be increased another million dollars to provide an endowment.

THE Hodgen Lecture, founded in memory of the late Dr. John T. Hodgen by the St. Louis Surgical Society and the Medical Fund Society, will be delivered by Dr. John M. T. Finney, Professor of Surgery, Johns Hopkins Medical School, February 28, in the Bartscher Auditorium of the St. Louis Medical Society, 3525 Pine street, St. Louis. The title of the lecture will be "Recent Advances in Stomach Surgery." Physicians who are interested in the subject are invited to attend the meeting.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY has begun the publication of a monthly bulletin. The first number appeared in January. It is a commendable production containing eight pages of reading matter and advertisements with an attractive cover. Dr. W. K. Statler, of Oak Ridge, is the editor. In the bulletin we find the minutes of the December meeting and several pages of items relating to the work of the society and the activities of the members, a poem or two and announcements of forth coming meetings. Three pages of advertisements of local firms no doubt absorb practically the entire expense of the publication of the bulletin.

THE National Board of Medical Examiners, whose certificates are accepted by the licensing boards in 27 states, has begun the publication of a bulletin in which will appear various items of information concerning the activities of the Board. It will be published bi-monthly. The first number appeared in October and contains 8 pages of general information about the organization of the Board, new states accepting the certificates, questions on recent examinations and much other data of interest to the profession. The subscription price is fifty cents per annum. It is edited by Mr. Everett S. Ellwood, Medical Arts Bldg., Philadelphia.

ERNEST EVERETT, a chiropractor in St. Louis, was held on a charge of homicide by the coroner's jury, December 14. He was charged with having treated a woman with appendicitis and when serious symptoms developed he called in a physician who, without diagnosing the appendicitis, ordered the woman sent to the City Hospital. Everett denied having treated the woman, and claimed that he saw her for the first time when she entered his office. The woman died and the inquest showed that she had suppurating appendicitis and general peritonitis. Before her death the woman stated, in

the presence of witnesses, that she had had three "adjustments."

THE American Medical Association announces that the Committee on Scientific Exhibit at the Chicago session will be composed of the following members: Drs. George Blumer, New Haven, Connecticut; George Dock, Pasadena, California; Evarts A. Graham, St. Louis; Ludvig Hektoen, Chicago, and Urban Maes, New Orleans. The Scientific Exhibit will be located on the promenade floor of the Chicago Municipal Pier. All the activities of the session will be centered at the Pier. Anyone who desires an application blank for either the exhibit or motion pictures program may obtain it by addressing a request to the Director, Scientific Exhibit, American Medical Association, 535 North Dearborn St., Chicago.

THERE is no good reason why Cape Girardeau County should not have a wide-awake medical society. We have the largest roster of physicians of any county in Southeast Missouri. We have competent men practicing the different specialties; we have the finest hospitals in Southeast Missouri; we are so situated that we encounter the diseases prevalent in the Southern states as well as in the North, which tends to broaden our knowledge and interest. We are in the constant presence of a large educational institution, whose faculty and students expect the best that medical science can give. These and many other reasons are sufficient to encourage a revival in our declining interest in our local medical organization. —*Bulletin* Cape Girardeau County Medical Society.

DR. FRANKWOOD E. WILLIAMS was re-elected Medical Director of the National Committee for Mental Hygiene at the annual meeting of the Board of Directors, held in New York City on December 28. The following were elected members of the Executive Committee: Dr. William L. Russell, Medical Director, Bloomingdale Hospital, White Plains, New York; Dr. Walter E. Fernald, superintendent, Massachusetts School for the Feeble-minded, Waverly; Dr. Stephen P. Duggan, director, Institute of International Education, New York City; Dr. William A. White, superintendent, St. Elizabeth's Hospital, Washington, D. C.; Dr. Charles P. Emerson, dean of the Medical School, University of Indiana, Indianapolis; Dr. C. Floyd Haviland, chairman, State Hospital Commission, Albany, New York; Dr. Arthur H. Ruggles, superintendent, Butler Hospital, Providence, Rhode Island, and Mr. Matthew C. Fleming, attorney, New York City. Dr. William H. Welch, pres-

ident of the National Committee for Mental Hygiene, presided.

THE Jackson County Medical Society is considering an offer from the Clark Estate Company, which if accepted will provide a commodious meeting hall for the society and rooms for the medical library at an annual rental of \$1.00. The Clark Estate Company proposes to erect an eleven story office building at 34th and Broadway, Kansas City, especially designed for the use of physicians and to construct a 160-car fire-proof garage in the rear for the use of the tenants of the building. It is proposed that the name of the building shall be the Medical Arts Building. The auditorium for the use of the Jackson County Medical Society will seat 250 with arrangements for doubling this number by the removal of adjustable screens in the rear. Another room will be constructed for the library with a capacity of 18,000 volumes. In addition to this there will be a check room, private office, the directors' room and a smoking room. The Jackson County Medical Society shall have the privilege of passing upon the desirability of all tenants in the offices and shall lend its assistance to the Clark Estate Company in securing such tenants. There is no other obligation attached to the terms of the lease, which runs for a period of fifteen years, except that the Jackson County Medical Society shall maintain its headquarters in this building for that period. Societies of allied purposes with the medical profession will also be invited to use the auditorium, but all such bodies must be approved by the Jackson County Medical Society before they are permitted to use the rooms.

DR. ROYAL S. COPELAND, United States Senator from New York, has introduced a resolution in the senate calling for a nation-wide investigation of diploma mills. The resolution was adopted and referred to the Committee on Education and Labor, which will have charge of the investigation. Senator Borah, from Idaho, is chairman of that committee. The Executive Committee of the American Medical Association issued a statement for the information of the Senate Committee declaring that the assertion of one of the men under indictment for the diploma frauds in Missouri that 25,000 medical imposters were licensed to practice was erroneous. The Executive Committee declares that not more than 2,500 graduates of class C schools have received licenses throughout the country during the past eight years. "For more than twenty years," the statement continues, "the attention of the public has been regularly directed in official publications of the Association to various evils

Ever since 1918 the fact that the Connecticut and Arkansas Eclectic Licensing Boards were apparently serving as clearing houses for low grade institutions in Missouri, has been published by the *Journal of the American Medical Association*. The statement emphasizes the importance of all state licensing boards limiting the admission of applicants to those who have graduated from approved medical schools, for only in that way can the public be assured that properly qualified physicians are authorized to practice medicine. "The medical profession definitely disclaims," says the statement, "the function of searching out and prosecuting the man who is practicing medicine without a license. This belongs to the police powers." The Executive Committee of the American Medical Association is composed of Drs. Frank Billings, of Chicago; A. R. Mitchell, of Lincoln, Nebraska; Chas. F. Richardson, of Washington, D. C.

OBITUARY

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

JOHN A. POSTLEWAIT, M.D.

Dr. John A. Postlewait, of Tarkio, a graduate of the Jefferson Medical College, Philadelphia, 1878, died December 3, 1923, aged 73 years. He was a member of the Missouri State Medical Association, having served several terms as delegate from Atchison County. In 1922 he was elected president of his county society, which office he held for two years. He was a member of the Board of Managers of State Hospital No. 3 for several years.

ROBERT E. DONNELL

Dr. Robert E. Donnell, of DeSoto, a graduate of Beaumont Hospital Medical College, St. Louis (now the St. Louis University Medical School), 1900, died October 15, 1923, at St. Luke's Hospital, St. Louis, of appendicitis, at the age of 46 years. Dr. Donnell had been an active member of the Missouri State Medical Association for a number of years and served as delegate from Jefferson County for the years 1922-1923.

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

MISCELLANY

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

THE PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION

DR. RAY LYMAN WILBUR,

HIS VISIT TO KANSAS CITY

Dr. Ray Lyman Wilbur, president of the American Medical Association and of Leland Stanford University, honored Kansas City with an informal visit as the guest of The Academy of Medicine at the annual autumn banquet Tuesday, November 13, 1923.

Dr. Wilbur addressed the student body of the Junior College as the guest of Professor Bainter early Tuesday morning. He was impressed with this group of earnest students who were attending this institution by their own will for the one purpose of following their own elective choice of knowledge. Dr. Wilbur spoke pleasantly upon this elective choice of education by the ambitious student.

The next stop upon the itinerary was at the General Hospital, where Dr. Wilbur addressed the interns, nurses and attending staff. From there he was taken to St. Luke's Hospital, where he made a talk to the nurses upon the increased responsibilities imposed upon nurses by the demand of modern medical practice in home and hospital.

At noon he met the local alumni of Leland Stanford University at the University Club. During the afternoon he met the junior and senior students of the University of Kansas, where he admonished the students of medicine to develop their five special senses in clinical diagnosis. He said that the well-trained doctor should be able to arrive at a diagnosis attired in a bathing suit. He denied the tendency to come attired in a diving suit with apparatus, compressed air and much assistance.

The banquet of the Academy in the Francis I Room of the Baltimore Hotel was attended by over 200 physicians. Dr. Lichtenberg introduced Dr. Wilbur, who spoke upon the subject of "The Progress of Medicine in the Last Twenty Years."

Dr. Wilbur is a tall, gaunt Lincoln-esque type with much earnestness of purpose.

While his subject was in retrospect his words were in anticipation of future problems. He briefly reviewed the heroic conquests of medicine within our generation. The discovery of the spirochete by Chaudin, the arsenical attack by Ehrlich, the specific diagnosis by Wassermann, yellow fever immunity, biological therapy, filterable virus, yaws, colloidal chemistry, roentgenology, radium, transmissible tumors, biology of cancer, vitamins, insulin.

Think of all these events that have gone around and about us in our own generation, any one of which would have characterized one generation in medical history.

The facts of medicine are filtering to the public slowly. Types of disease are changing constantly.

It is better to practice medicine one year *right* than forty years *wrong*.

When the last war arrived aseptic surgery was established, the X-ray was available. Antityphoid vaccination and antitetanic serum and smallpox vaccination—all this applied medical knowledge eliminated perplexities of war and guaranteed better man power.

The mass application of these discoveries to the public are essential factors in the economic preser-

vation of the race and the productive efficiency of all people.

The social responsibilities of the profession are enormous. Are we going to fit in or be fitted in? We must face, meet and control these situations. The social aspects of medicine are inevitable.

Bringing in the laboratory has crowded out the clinical senses. We must understand how to get our hands upon the patient. The personal touch is essential. We must put back into medicine the personal element. The distant approach through the laboratory is ruinous to the confidential relationship of patient and physician.

The dramatic discoveries of the laboratory have numbed the talents of the five senses. Too many improvements obscure the simple facts of diagnosis and bed-side study.

The training of the physician has suffered by the conflict of too many specialties and too much laboratory. The refinements make a trained machine instead of an observing practitioner!

Our greatest error has been in not carrying the public along. The progress has been too rapid for understanding by the public. Sometimes our progress is too rapid for assimilation by ourselves.

We must sell ourselves and our knowledge to our public.

We are well organized. We have demanded better education of our profession. We must work out a plan to offer what we know to the public. We must assume the offensive. We have been defensive too long.

E. H. SKINNER, in Jackson County
Medical Society Bulletin.

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Chariton County Medical Society, December 13, 1923.

Madison County Medical Society, January 19, 1924.

Platte County Medical Society, January 22, 1924.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One-Hundredth Meeting, December 10, 1923

1. EXHIBITION OF CASES.

A. A CASE OF TABES DORSALIS AND CHARCOT SPINE, RESULTING IN FLACCID PARAPLEGIA.—By DR. LEE P. CADY.

White male, 50, single, bill poster. Complaint: Inability to move legs. F. H. Irrelevant. P. H. Normal development and childhood. After finishing third year high school joined circus, traveled widely. Gonorrhea five or six times. Penile sore sixteen years ago. Treated with mercury ointment.

P. I. Started seven years ago with severe lancinat-

ing pains in legs. "Girdle pains" in abdomen for four or five years. Bladder sphincter became weak at this time. Quit circus on account of pains. Unsteadiness of gait and posture past year. Legs gradually weaker. Six weeks ago knees gave away when trying to walk. Had antiluetic treatment and improved.

P. E. Normal lungs. Rough first sound at mitral area. B. P. 130-70. Arteries moderately sclerotic. Abdomen normal. Large kyphos of upper lumbar region when sitting.

Neurological Examination. Mentality normal. Pupils practically fixed to light, sluggish to accommodation, left larger than right. Arms normal. Abdominal reflexes present, lowers diminished. Only movements of legs patient can make is slight medial rotation at hips. Legs flaccid. Position sense practically absent. All reflexes absent. Marked hypalgnesia and hyposthenia from lower lumbar region down. Vibration sense absent in legs. Bladder and rectal sphincter tone absent.

Laboratory Examinations. Moderate anemia, differential shows 34 per cent lymphocytes. Blood Wassermann ++++. Electrocardiogram shows P-R interval 20, rate 100. Left ventricular preponderance. Spinal fluid shows 11 cells, Wassermann +; Globulin ++. Urine normal.

X-ray of lumbar spine shows destructive process involving bodies of 1st, 2nd and 3rd vertebrae with bone proliferation extending anteriorly into soft tissue. X-ray diagnosis: Charcot joint of spine, syphilis of lumbar vertebrae.

Treatment. Antiluetic treatment including trypanamide and hyperextension by means by a Bradford frame. It is too soon to expect any results of the treatment.

B. THE USE OF INSULIN IN THE TREATMENT OF ATHREPSIA.—By

DR. W. McKIM MARRIOTT.

The two infants presented here are examples of extreme malnutrition, or athrepsia, as the result of prolonged underfeeding. The treatment is to administer a food of high caloric value and one capable of utilization. These infants have each been given a diet composed of whole lactic acid milk with added corn syrup. One has received 200 calories per kilo of body weight per day and the other 250, but this was not sufficient to lead to any steady or marked gain in weight. It was impossible to give more food by mouth as the limit of tolerance of the digestive tract had been reached. Additional food was therefore given intravenously in the form of glucose solution. This resulted in marked glycosuria. In fact, some glycosuria occurred as the result of the large amount of carbohydrate given by mouth. In order to bring about utilization of this carbohydrate each infant was given insulin intravenously along with the glucose. Fifteen units of insulin were added to 100 cc. of 20 per cent glucose and this solution was injected daily. The results were most satisfactory. During the past two weeks each infant has gained 800 grams (an average gain of 57 grams (2 oz.) a day), and there were no untoward symptoms. The results obtained so far with this method of giving a large amount of carbohydrate together with sufficient insulin to insure its utilization are such that we believe the method to be a most valuable one in the treatment of the condition of severe malnutrition or athrepsia.

C. A CASE OF HYDROCEPHALUS TREATED BY MEDICAL MEANS.—By DR. W. McKIM MARRIOTT.

This patient is now 10 months old. She first came to the hospital at the age of 5 months with the his-

tory of having had an acute febrile disturbance followed by progressive enlargement of the head. At that time the maximum circumference of the head was 44.5 cm. It was determined at that time that there was no obstruction to the flow of cerebrospinal fluid from the ventricles. The patient was taken home and returned again four months later. During the interval the head had enlarged markedly (to 51 cm.) and the fontanel was very tense. The child was also in very bad nutritional condition. The child was not in condition for surgical treatment at that time. The treatment was one which we have used in a number of cases, and was based upon the fact that the passage of fluids through biological membrane is, to some extent, influenced by the difference in the surface tension on the two sides. It was felt that if the surface tension of the blood could be raised or that of the spinal fluid lowered, passage of spinal fluid into the circulatory system might occur. Since it is known that theobromin sodium salicylate (diuretin) increases the surface tension of the blood, this substance was administered by mouth in doses of .2 gms. (3 grains) three times daily. This was given over a period of five weeks. At the end of this period the circumference of the head was 50.5 cm., there having been an actual decrease in the size during the time of giving the medication. In order to determine whether or not this was merely a coincidence treatment was stopped ten days ago and the head has now increased in size to 51.75 cm. The fontanel has become more tense and the general condition bad. Treatment will therefore be begun again.

This child is one of a number which we have treated in the same way and the results have been good in the cases of communicating hydrocephalus. No effect was obtained in one case of complete obstructive hydrocephalus.

2. THE SOLVENT ACTION OF OLEIC ACID ON TUBERCLE BACILLI.—By DR. FRANK A. McJUNKIN.

The tubercle bacillus resists the action of solvents which readily dissolve non-acid fast bacteria. Strong caustic alkalic (20 per cent sodium hydrate), strong mineral acids, and pepsin-hydrochloric acid mixtures cause members of the acid-fast group of bacteria to lose the property of acid-fast staining and to dissolve¹.

At the meeting of this society May 9, 1921, the author reported that there was little microscopic evidence of change in morphology or in staining of cultures ground for several hours in mortars with soft glass flour; but that filtrates of massive cultures ground in this way for three hours or longer induced in guinea pigs a mild type of sensitiveness to tuberculin. Efforts to increase by various modifications of this procedure the degree of skin sensitization have not been successful. Filtrates prepared by different workers in many different ways have failed to produce a skin sensitization to tuberculin regularly in whole series of animals. Also the injection of killed cultures produces in guinea pigs a mild skin hypersensitiveness or no change in skin reaction to tuberculin².

In an examination of the effect of some common oils and oil products on dehydrated cultures of bacillus tuberculosis it was found that oleic acid causes the bacilli to lose their acid-fast property, to become granular, and to dissolve. The details of the method have been described by the author elsewhere³.

3. THE INTRACUTANEOUS TUBERCULIN REACTION IN GUINEA PIGS TREATED WITH FILTRATES OF OLEIC ACID—DISSOLVED TUBERCLE BACILLI.—By DR. FRANK A. McJUNKIN.

The first attempts to determine the effect on experimental animals of cultures subjected to the action of oleic acid failed because of the strong local irritant action of the oleic acid which was injected along with the cultures. The oleic acid is now removed by adding a large volume of 95 per cent alcohol to the incubated tubercle bacillus-oleic acid mixture and allowing a precipitate to form during a few minutes. The precipitate collected by filtration through filter paper is washed with a small amount of alcohol and then placed with a quantity of 0.2 per cent sodium hydrate sufficient to neutralize the traces of oleic acid present. After twelve hours or less at 37°C the liquid is passed through a type-V Berkefeld filter and stored at 4°C. Most of the culture is dissolved by the aqueous solution and the filtrate reacts to the biuret test.

Filtrates prepared in this way have been injected intraperitoneally or subcutaneously into twenty guinea pigs with the result that all have responded to some extent to the subsequent intradermic tuberculin test. The test becomes positive in about one month after the injection. In three animals the response has been unusually marked with edematous reddened skin three or four centimeters across and a small scab at the center. These reactions subside leaving a permanent scar. In these three instances the filtrate was injected subcutaneously. However, these rather violent reactions are much less severe than those commonly elicited in tuberculous guinea pigs where a slough a centimeter or more across may form. Prolonged contact with the aqueous solution at 37°C appears to lessen the antigenic effect of the filtrate as does a contact of an hour or more with the alcohol which is added to separate the oleic acid.

1. Wells, De Witt and Long. The Chemistry of Tuberculosis, Williams & Wilkins, Baltimore, Md.

2. Roemer, P. Beitr. z. Klin. d. Tuberk. 1909, Vol. XII, p. 185.

3. McJunkin, F. A. American Review of Tuberculosis, 1923, in press.

DISCUSSION

DR. E. A. GRAHAM: What effect has the injection of this material on tuberculous guinea pigs? Also what oleic acid does to tubercle bacilli *in vivo*?

DR. R. A. KINSELLA: As I understand it, you take dissolved tubercle bacilli out of the oleic acid mixture, and as they are not completely dissolved, you get them in sediment and then dissolve the sediment in .2 per cent sodium hydrate, and that is a clear fluid, is it not?

DR. F. A. McJUNKIN: In reply to Dr. Kinsella's question, it is apparent to the naked eye that there is a considerable amount of actual solution of the tubercle bacilli. However, at the end of a few weeks there are still undissolved blue-staining bacilli, and also a few undissolved acid-fast tubercle bacilli in the acid mixture. Now, when you add to that mixture a large volume of 95 per cent alcohol a heavy precipitate forms. That precipitate, when smears are made from the mixture before filtering, shows in addition to the blue-staining forms also a blue amorphous precipitate. This is then filtered through filter paper. The alcohol which contains the oleic acid goes through in the filtrate while the precipitate is held back. Now, to that precipitate which is not perfectly free but is free to a very considerable extent from oleic acid the .2 per cent alkali is added. The dilute alkali which is added to the precipitate

dissolves much of the nonacid-fast material, but not the acid-fast. The aqueous solution is passed through a Berkefeld filter. This filtrate is clear, that is, the filtrate from the Berkefeld filter. It is that filtrate that gives this positive biuret test. It is the clear Berkefeld filtrate that has been injected into these guinea pigs.

In regard to Dr. Graham's question, oleic acid so far as I know has not been used in the treatment of tuberculous animals. I do not know what effect it might have on tuberculous animals or tuberculous lesions. I do not know what effect the filtrate might have on tuberculous guinea pigs.

DR. R. E. KINSELLA: Is there no oleic acid injected into these guinea pigs? Is that white amorphous filtrate soluble in water?

DR. F. A. McJUNKIN: Small amounts of sodium oleate are injected. A .2 per cent solution is a rather dilute alkali, and the idea is to neutralize the last trace of the oleic acid.

4. TISSUE CULTURES OF PLANTS.—

By DR. W. H. CHAMBERS.

The continuous growth of plant tissue in sterile cultures has been recently studied by Robbins. He has found that the excised root tips from young seedlings will grow to the sixth transplant but continuous growth of meristematic tissue by frequent transplantation has not been produced. These fragments of embryonal tissue form normal differentiated root tissue with secondary and tertiary branches. Robbins used large fragments, about 10 mm. long, and cultivated them in flasks. Kotte has confirmed these results with smaller fragments, 1 mm. long, grown in test tubes. Up to the present time in cultures of plant tissue a separation and migration of the individual cells such as is found in cultures of tissue from higher animals has not been reported. In some recent experiments in which the tissue was grown in hanging drop culture for microscopic study, migration of the individual cells was noted in a root tip which had been accidentally injured. Since then, abundant migration has been produced in very small root tip fragments, less than 1 mm. long. This separation and migration of the cells from the fragment is similar to that seen in animal cells.

For these experiments squash seeds were sterilized in chloramine T and germinated in one per cent agar. When the radicle had grown to 20 or 30 mm. fragments of embryonal tissue were cut from the root tips and planted in a nutrient medium of salts, peptone, dextrose, and agar. The reaction of the medium was buffered with potassium phosphates to pH 5.6, which was the PH of a ground cotyledon extract and a ground squash seedling extract.

This migration of the individual cells, like that in the animal tissue cultures, is greatest on the surfaces of the medium, although it also occurs through the center of the drop. On the upper surface of the agar, next to the cover glass, migration has been observed to a distance of 1.7 mm. from the tissue. On the lower surface a viscid film is seen diffusing from the tissue with the cells distributed more or less evenly through it. The cells are not merely floating free in a fluid, but are held immobile against shaking. A similar surface film has been found in cultures of young embryonic animal tissue and cancer tissue, but not in cultures of older embryonic or adult tissue in a salt solution medium. The migrating cells are not the dead, plasmolyzed outer cells of the root cap, but are viable round and ovoid cells. After migration has ceased, some of the isolated cells become plasmolyzed, others remain viable for many days.

While the migration of the plant cells resembles that of the cells of the higher animals, growth in the cultures of those small fragments is different in

so far as it has been observed. The animal cells grow in mass without forming a definite structure. Mitosis has been observed in isolated cells. In the plant cultures, growth has always taken place in the fragment to form organized and differentiated root tissue. No mitosis have been seen in the cells separated from the fragment.

The data show a definite relationship between the length of the root tip excised and the growth and migration from it. Typical migration was found only in fragments under 1 mm. in length (including the root cap). The best migration was from tips between .5 and .8 mm. long. The growth was measured by increase in length of the tissue fragment. The average growth of the fragments increased directly with the size of the fragment planted. The average growth from .5 to .6 mm. fragments was .27 mm., from .6 to .7 mm. was .65 mm., and from .7 to .8 mm. was 2.27 mm.

These data suggest that plant cells and animal cells will agree in many of their fundamental physical reactions

DISCUSSION

DR. M. T. BURROWS: As Dr. Chambers has pointed out all attempts to cultivate fragments of plant tissue in vitro have lead to the growth of the total fragment rather than a separation, migration and growth of the individual cells. From fragments of the tissue of higher animals placed in the cultures the cells invariably tend to become scattered in the medium. In these tissues growth when it is seen occurs in these migrating cells and not as a growth of the mass. In cultures where plasma is used as a medium the central cells of the fragment degenerate to nourish the cells in the outer medium. Such growth does not take place in every culture but is proportional to several factors. It is greatest always about the very densely cellular fragments and maximum about fragments of these cellular tissues 1 mm. in diameter, planted in layers of medium .5 mm. in thickness. In studying the peculiarities of such a thickness of medium it was found that oxygen diffuses in quantities sufficient to keep red cells red no greater than .5 mm. into plasma clot and no more than 1 mm. in most tissue fragment. The exact distance for diffusion into the fragments is more difficult to measure.

In the plasma cultures it was found therefore that growth was greatest about the greatest mass of cells to be crowded into a small space where oxygen might diffuse readily. In other words there is a quantity factor in growth. Resolving that it was found that the breaking down of the cell in the fragment and the growth without depended upon the accumulation of a product of the metabolism of the cell. Again this substance is formed in proportion to the oxygen consumed. It is apparently essential for the proper breaking down of materials and synthesis in these cells.

Dr. Chambers' experiments have shown that the same factor holds in case of the plant cells. Larger fragments grow to form roots and stems while from the smaller fragments the cells become dispersed in the medium.

These facts have given further confirmation to the idea expressed by me that the particular organization of the cancerous tissue is one of the most important factors in determining its active growth. The organization which is peculiar to cancer is a crowding of the cells and a general reduction in the blood supply. A careful study of the effect of substances and conditions which lead to cancer has shown that they lead to such a crowding of the cells. The work with cells in the cultures has shown the relation between this crowding and the growth of cells.

DR. H. LESTER WHITE: What is the source of ni-

trogen? Is nitrogen from peptone available for these cultures?

DR. W. H. CHAMBERS: The salt medium contains calcium nitrate, potassium nitrate, potassium phosphates, potassium chloride, magnesium sulfate and ferric sulfate. This is a modification of Pfeffer's medium which has been found adequate for the growth of normal adult plants. The nitrates are probably the main source of nitrogen. It has not been determined whether the increased growth from the addition of peptone is due to the increased supply of nitrogen.

DR. H. L. WHITE: Do the cells form fat?

DR. W. H. CHAMBERS: We have made only a few stains with osmic acid and found small stained granules, probably fat, distributed through the protoplasm of the migrated cells.

DR. LEO LOEB: Dr. Chambers concludes on the basis of his experiments that the reactions of plant tissues and animal tissues are in principle identical. However, Dr. Chambers has really compared only embryonic plant tissue with embryonic animal tissue. In these two tissues he has shown very interesting analogies to exist. But if we compare adult, fully differentiated tissues, marked differences between animal and plant tissues become noticeable. The cells of adult plant tissues in tissue cultures seem to increase in size, the thickness of the cell wall may increase, but in general cell divisions and cell movements seem to be absent. It is different in differentiated animal tissues. Thus Dr. Fleisher and I have found that fully differentiated tissues like those of kidney, thyroid may show multiplication actively by mitosis, even if no outgrowth into the culture medium is visible. However, there is a possibility that it will be possible through special means to induce also plant tissues to divide actively. Haberlandt has found that substances extracted from leptom may call forth cell divisions in differentiated plant cells. Perhaps it will be possible through addition of appropriate substances to the culture medium to obtain a real growth of differentiated cells even in the case of plant tissues.

DR. W. H. CHAMBERS: Kotte in his article points out that the cell-division hormone of Haberlandt is formed in embryonic tissue, although he did not study the adult tissue. I think the points that Dr. Loeb has made are very well taken. When we find a medium in which we can grow adult tissue by adding hormones or other food substance, possibly then we can get the same results in adult tissues. Our experiments so far in the addition of leptom to the media have been unsuccessful.

5. HYPERNEPHROMA AND CARCINOMA OF KIDNEY: A COMPARATIVE STUDY.—By DR. D. K. ROSE.

On account of the conflicting views as to the classification of hypernephroma an attempt is made to classify them on the basis of their structure along with that which is suggestive of the structure of the organ from which they arise; *viz.*, in the case of hypernephroma from adrenal rests, and in the case of carcinoma from degeneration of kidney tubular epithelium. The adrenal rest tumor discovered by Grawitz in 1883 and the term hypernephroma given by Birch Hirschfeld in 1892 marked the beginning of the controversy in which have been used arguments of chemistry, biology and pathology. The chief characteristic of hypernephromata is the friability, which is due to the absence of connective tissue. The tumor is granular, yellow, with mottling due to hemorrhage and cysts. The carcinoma is smooth, non-capsulated and always shows a tendency to connective tissue formation, which in the majority of instances, circumscribe the integral

units, as for example, adenoma formation or papillary formation.

Histological: The hypernephroma very frequently shows in different portions of the tumor all three formations encountered, *viz.*, broad sheets of cells, adenomatous formation, and the clear cell papillary type of tumor. These three types are related in that the former is moulded in the latter two types by the ingrowth of a sinusoidal plexus, which may be either long meshed or round meshed. In the long meshed plexus the nuclei of the tumor being drawn to the endothelium of the sinusoids produces a very typical papillary formation.

In twelve specimens classified by these rulings, seven were found to be carcinomata and five hypernephromata. Of the five hypernephromata cases four are living and one dead; the one dead having shown hematuria six years prior to operation. The seven carcinoma cases all died within three months following operation. The onset of the first symptom, the discovery of the tumor mass and the first hematuria corresponding in point of time in all twelve cases sufficiently to show that it was the type of tumor and not the duration of the disease that produced the fatalities.

SUMMARY

That the mortality from adrenal rest tumors is low; that they are less frequent than carcinoma arising from kidney tissue, and that there is a definite structure which suggests an origin from an adrenal rest.

DISCUSSION

DR. McJUNKIN: When Dr. Rose first started to talk about these things, I questioned whether some of them might not be benign adrenal rests. These masses of adrenal tissue in the kidney may reach a considerable size, even an inch across, and I doubt very much whether any of them ever reached the size of those pictured, or in the first five cases. Adrenal rests are misplaced adrenal tissue in the kidney, and show no evidence of growth and mitotic figures are not present, so histologically, these may be differentiated from adrenal carcinomata or hypernephromata, but I think that the gross appearance may be identical. You might have an adrenal carcinoma which in the gross picture is similar in appearance to a purely adrenal rest, or misplaced adrenal tissue in the kidney. I have never seen misplaced adrenal tissue the size of these pictured.

DR. E. A. GRAHAM: I wish to say that it has been a profitable investigation that Dr. Rose has made. I would also like to ask if he has investigated carcinomata arising from the kidney pelvis, that is, arising from the epithelium of the kidney pelvis as distinguished from the margin of the kidney.

DR. D. K. ROSE: I have seen only one carcinoma arising from the pelvis of the kidney, and that one is in the museum. I have sections of it, and it in no way suggested hypernephroma, nor does it suggest the fibrosis type of tubular carcinoma. They are very soft tumors, very friable, and in these respects they may slightly suggest the adrenal carcinoma.

DR. E. A. GRAHAM: How do they compare in markings?

DR. D. K. ROSE: I do not know. This one slightly suggested a hypernephroma.

DR. I. Y. OLCH: I just recently had the opportunity of seeing another carcinoma arising from the kidney pelvis. The man was a patient in the hospital. He has a marked papilloma arising in the kidney pelvis. This shows a typical picture of friable tissue, easily broken off. It extended back into the kidney itself, giving rise to areas resembling

abscesses and showing the carcinoma implanted further back in the kidney. This is the second case we have observed.

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

**FORTY-SEVENTH SEMI-ANNUAL SESSION OF
THE SOUTHEAST MISSOURI MEDICAL
ASSOCIATION, FARMINGTON,**

OCTOBER 16, 17, 1923

This meeting of the Southeast Missouri Medical Association was a most interesting one. A large number of members as well as many visitors were in attendance and a program of excellent variety was presented so as to command the lively interest and personal participation of all throughout the session.

On the afternoon of the first day a series of papers on various mental neuroses was presented by the physicians in charge at the State Hospital No. 4, at Farmington, and patients at the hospital were brought before the society exhibiting symptoms of the types dealt with in the papers.

The evening session was an open meeting in Entertainment Hall, when the address of the president-elect, Dr. G. B. Schultz, of Cape Girardeau, was delivered. He was followed by Dr. W. F. Grinstead, of Cairo, Illinois, who spoke of his trip to South America to observe the medical situation in southern lands.

Wednesday consisted of the reading of interesting papers and reports from the different members of the association. The consideration of medical legislation and other matters of importance were brought up.

All sessions were held at Entertainment Hall of the State Hospital by courtesy of Dr. J. H. Parker, Superintendent, and physicians in charge of the institution, who furnished conveyance from the hospital to the hotel and otherwise did everything possible to provide for the entertainment and convenience of those in attendance. A most practical demonstration of this courtesy was the dinner prepared for the association at the large mess hall on Tuesday evening. We will be glad to go back to Farmington.

The following resolution was adopted:

Whereas, It has come to the knowledge of the medical profession of the state of Missouri that an alleged ring organized for the purpose of selling medical diplomas, high school certificates of qualification, and such other credentials as may be required, has been exposed and published broadcast by the *St. Louis Star* and

Whereas, It is shown that ignorant and wholly unqualified persons may gain entrance into the profession of medicine contrary to the laws of the state and the public welfare, and

Whereas, It is generally known that chiropractors and other ignorant charlatans are exploiting the people without let or hindrance by the legal authorities contrary to law and public welfare, and

Whereas, Many osteopaths whose chief claim in the alleviation of disease and suffering is in the non-use of drugs, are now prescribing drugs at will, and are more and more invading the field of general practice without being required to undergo the same rigid requirements of the practitioner of regular medicine, therefore, be it

Resolved, That it appears that a coterie of medical degenerates have prostituted the good name and high calling of all reputable students of the science and art of medicine and surgery and therefore merit the condemnation and supreme contempt of all true medical patriots, and be it further

Resolved, That this Association stands on the doctrine of equal rights to all and special privileges to none; therefore it is the sense of this Association that all who aspire to the practice of medicine should be compelled to submit to the same educational and moral requirements, and be it further

Resolved, That we commend the efforts of the *St. Louis Star* toward the uprooting and exposure of reprobate practitioners and medical pirates.

The following resolution was also adopted:

Whereas, The Southeast Missouri Medical Association has advocated that the Eleemosynary Institutions should be run along nonpolitical lines, and

Whereas, Under the law creating the Central Board of Control they are now being so managed; therefore be it

Resolved, That the Southeast Missouri Medical Association wishes to go on record as approving the workings of the said Board, as their appointments have been made along nonpolitical lines and for the good and better management of these institutions; and be it further

Resolved, That we especially approve the management of Hospital No. 4, and trust that other institutions are being conducted and managed in a like manner, and will so continue to be in the future; and be it further

Resolved, That we extend our sincere thanks and appreciation to the management of Hospital No. 4 for the many courtesies shown us during this meeting.

About sixty members and visitors were present. Charleston was selected as place of May meeting.

The program follows:

Tuesday Afternoon 2:30 p. m.

War Neuroses, by Dr. R. C. Fagley, Farmington.

Manic Depressive Insanity, by Dr. C. Robertson, Farmington.

Dementia Praecox, by Dr. B. T. Brown, Farmington.

General Paralysis of the Insane by Dr. J. H. Parker, Farmington.

Tuesday Evening, 8:30 p. m.

Programme arranged by local physicians, including address of President Elect Dr. C. B. Schultz, Cape Girardeau.

Address: Some Professional Observations in Eight of the Eleven South American Republics on a Personal Voyage in 1923, by Dr. W. F. Grinstead, Cairo, Illinois.

Wednesday Morning, 8:30 a. m.

Case Report, by Dr. Wm. Wescoat, Oran.

Medical Legislation and Public Health, by Dr. A. H. Hamel, St. Louis.

Otalgia and Mastoidalgia, by Dr. O. A. Smith, Farmington.

Myositis Ossificans, by Dr. Carl A. W. Zimmermann, Cape Girardeau.

Dietetics, by Dr. G. L. Watkins, Farmington.

Afternoon Session, 1 p. m.

Paper, by Dr. Lee Pettit Gay, St. Louis.

Surgery of the Thyroid Glands, by Dr. E. V. Mastin, St. Louis.

Acute Osteo Myelitis, by Dr. L. E. Munroe, Bonne Terre, Mo.

Case Report, by Dr. J. P. Sebastin, Williamsville.

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

BOONE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Boone County Medical Society was held at Columbia, November 6. President R. P. Robinson called the meeting to order

at 8 p. m. The minutes of the October meeting were read and approved.

Two communications from Dr. Goodwin were read,¹ one requesting information concerning Dr. C. F. Edmonston, the other requesting all available data on all individuals in the county treating the sick.

On motion by Dr. Dudley Conley, which was seconded and carried, the Secretary was instructed to write the State Secretary regarding the status of Dr. C. F. Edmonston, attaching copy of his registration as filed in the recorder's office.

A motion by Dr. Conley that a committee be appointed to compile data on all individuals treating the sick in Boone County was duly seconded and carried. Drs. Fischer, Robnett, Gordon, Norris and Parmer were appointed on this committee.

The membership committee reported favorably on the application of Dr. H. P. Muir and he was unanimously elected to membership in the society.

Drs. A. R. McComas and Guy L. Noyes spoke briefly on the recent disclosures of the medical diplomaring and the proposed clean-up.

Dr. McComas moved that it is the sense of the Boone County Medical Society, in view of the present conditions, that the program committee of the State Association be requested that the next meeting of the State Medical Association to outline a program of public health and education to the exclusion of scientific and medical papers and discussion, and if in the judgment of the committee it is practical, that laymen be invited to participate in the program and that the Health Officers' Association be requested to hold their conference there at the same time. Seconded and carried. On motion adjourned.

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

STAFF MEETING OF THE BOONE COUNTY HOSPITAL, COLUMBIA, NOVEMBER 6, 1923

Dr. Frank G. Nifong, Chief of Staff, called the meeting to order. Following the reading and approval of the minutes of the last meeting the reports for the month of October were taken up.

A creditable increase was reported in all departments, the attendance at the outdoor clinic being very satisfactory. No deaths occurred at the hospital during October.

The report of the committee on publicity was received and the committee ordered continued.

Dr. J. E. Thornton presented a case of fracture of the femur, upper third, with plates showing results obtained. On motion adjourned.

WM. O. FISCHER, M.D., Secretary.

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met at Breckenridge at 2 p. m., November 15. Among those present were Drs. G. S. Dowell, Tinsley Brown, R. L. Mount, B. F. Carr, M. L. Clint, O. N. Thompson, L. M. Daley, H. R. Booth, J. E. Gartside and W. E. Chaffin. Dr. H. M. Grace of Chillicothe, was present and the privileges of the society were extended to him.

The minutes of the meeting held at Braymer, August 23, were read and approved.

A paper was read by Dr. R. L. Mount, entitled

"Vitoma," and was discussed by Drs. Carr and Brown.

Dr. H. M. Grace read a paper entitled "Heartburn," which was very interesting and elicited an extended discussion, which was participated in by nearly all who were present.

Dr. Tinsley read a paper entitled "Arteriosclerosis," which brought on an extended discussion.

The following officers were elected for the year 1924: President, Dr. George S. Dowell, of Braymer; secretary and treasurer, Dr. Tinsley Brown, of Hamilton; censors, Drs. J. E. Gartside for one year, H. R. Booth for two years and B. F. Carr for three years.

The meeting was the best that has been held for a long time. Society adjourned to meet at Polo at the call of the president in December.

TINSLEY BROWN, M.D., Secretary.

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau Medical Society met in regular session at Cape Girardeau, December 10, with the following members present: Drs. D. I. L. Seabaugh, O. L. Seabaugh, E. H. G. Wilson, W. E. Yount, C. A. W. Zimmermann and D. G. Seibert.

The meeting was called to order by the president, Dr. D. I. L. Seabaugh. The minutes of the meeting held at Jackson, November 12, were read and approved.

On motion, the secretary was instructed to pay all bills presented up to January 1, 1924.

This being the night for the election of officers for the ensuing year, the following were elected: President, Dr. C. A. W. Zimmermann; vice-president, A. E. Dalton; secretary, D. G. Seibert; treasurer, O. L. Seabaugh; censor for 3 years, E. H. G. Wilson; state convention delegate, D. H. Hope, who is to select his own alternate if he cannot go.

After spending a pleasant hour in social intercourse the meeting adjourned and upon the kind invitation of Dr. Zimmermann retired across the street for refreshments.

D. G. SEIBERT, M.D., Secretary.

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

ST. LOUIS COUNTY MEDICAL SOCIETY

The annual dinner and election of officers of the St. Louis County Medical Society was held at the Algonquin Golf Club December 12, 1923, at 8 p. m. The attendance was very good considering the inclement weather, there being about fifty members and guests present.

After the dinner, Miss Julia Jordan, of Clayton, recited several very entertaining expressional numbers; Mr. Harvey Ramsey gave a number of tenor solos, accompanied by Mr. Alfred Booth. Mr. Booth contributed several piano selections.

Dr. E. J. Goodwin, secretary of the Missouri State Medical Association, and Dr. John C. Morfit, of the St. Louis Medical Society, the guests of the evening, favored us with interesting talks.

Dr. W. F. O'Malley, the retiring president, delivered his valedictory speech in which he gave a resume of the activities of the society in the past year.

The next order was the election of officers for

the ensuing year, which resulted as follows: President, Clyde P. Dyer; vice-president, C. A. Dunnivant; secretary-treasurer, Otto Koch; censor for three years, Arthur Westrup.

A transfer card of Dr. James Townsend, of Eureka, from Jefferson County Medical Society to this society, was presented and on motion, Dr. Townsend was elected to membership.

The application for membership of Dr. Fremont Leuking, of Webster Groves, was received and referred to the proper committee.

The following resolutions were presented by Dr. Hayward:

WHEREAS, We consider a county hospital a public necessity for the health and welfare of its citizens, and,

WHEREAS, St. Louis County has no such institution, therefore be it

Resolved, That the St. Louis County Medical Society, duly assembled, December 12, 1923, goes on record in favor of a bond issue for the establishment of a modern equipped county hospital which would serve both charity and pay patients; be it further

Resolved, That this Society recommends that said hospital be available to all reputable physicians residing in St. Louis County.

On motion, it was ordered that this matter be presented to the county court through a committee appointed by the chair.

Meeting of January 9

The St. Louis County Medical Society met in regular session January 9, 1924. The meeting was called to order by the president, Dr. C. P. Dyer. The minutes of the two previous meetings (November and December) were read and approved.

The report of the committee on annual meeting was received and on motion accepted and the committee was thanked and discharged.

The resolution pertaining to a county hospital, adopted by the Society at its annual meeting, was taken up and generally discussed. The president announced that he had appointed a committee consisting of Drs. Dyer, Denny, Westrup, Armstrong and O'Malley, to investigate hospital conditions, confer with the county court and to present to the court the resolutions of the Society.

The application for membership of Dr. Fremont Leuking, of Webster Groves, was reported favorably by the board of censors and Dr. Leuking was elected by ballot.

The secretary reported the death of Dr. J. Wilson Dean, of Pond, for many years a member of this society.

Dr. Kuhlmann moved that the remarks of the secretary be incorporated in the minutes; that the necrology committee draw up proper resolutions, that a copy of the resolutions be forwarded to the widow, a copy to the Journal of the Missouri State Medical Association and be recorded in the minutes.

On motion it was ordered that a committee consisting of the officers of the Society be appointed to review and revise the constitution and by-laws and report their recommendations at the next meeting.

The president announced the following committees for the ensuing year:

Committee on Program and Publicity, F. C. E. Kuhlmann, chairman, Otto W. Koch, John H. Armstrong.

Committee on Legislation, Arthur W. Westrup, chairman, Robert B. Denny, J. A. Townsend.

Committee on Membership, Garnet Jones, chairman, John H. Sutter, Charles L. Davis.

Committee on Entertainment, W. F. O'Malley, chairman, Horine Mills, H. N. Corley.

Committee on Necrology, W. H. Townsend, chairman, Vincent Townsend T. M. Brossard.

Board of Censors, G. C. Eggers, chairman, one year; Garnet Jones, two years; Arthur W. Westrup, three years.

Delegate to the State Medical Association, C. P. Dyer, one year.

The scientific program consisted of an allocution by Dr. Vilray P. Blair of St. Louis, on "Cancer of the Mouth, Face and Larynx," stressing upon early diagnosis and operation.

On motion, a vote of thanks was given Dr. Blair for his interesting address.

Those attending the meeting were: Drs. Armstrong, Baker, Cape, Davis, Denny, Dunnivant, Dyer, Hansen, Jones, Koch, Kuhlmann, Leuking, Mitchell, O'Malley, Sutter, J. A. Townsend and Westrup.

Visitors present: Drs. F. O. Schwartz, Canapa, Fuchs and Hansel, of St. Louis.

The program for the meeting of February 13 will consist of the reading of a paper entitled "Focal Infection," by Dr. Charles H. Nielson, of St. Louis.

O. W. Koch, M.D., Secretary.

BOOK REVIEWS

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

MEDICAL RECORD VISITING LIST, or Physician's Diary. Revised. William Wood & Company, New York. Price, \$2.00 net.

This is a visiting list for sixty patients per week with much special memoranda on various topics. There is an obstetric calendar indicating the probable date of labor and the average but quite varying time of first perceptible motion of the child. The calendars include the last six months of 1923, all of 1924 and the first six months of 1925. On each right-hand page of the visiting list is a column for special memoranda which will be found very convenient for notation on prescribing or administering narcotics. There are numerous other pages of information on topics of importance in the daily routine of practice.

EXERCISE FOR HEALTH AND CORRECTION. By Frank D. Dickson, M.D., and Rex L. Diveley, M.D. 112 illustrations, 127 pages. Philadelphia and London. Lippincott & Company. Price \$2.00.

A short book intended "to give to those interested in the building up of their bodies a brief but fairly complete and systematic manual of exercise. The number of exercises has been held down to a minimum, only those being included which we feel will give the best result for each muscle group in the body."

The exercises are arranged in five groups. The first two are designed to tone up the muscles of the body as a whole and improve the general health. The three latter are intended for use in special conditions which are moderately prevalent and which may be favorably influenced in muscle training. The third and fourth groups include exercises which have proven of value in the treatment of poor carriage and visceroptosis. The fifth group is for use in conditions in which lack of muscle balance in the foot is present, such as flatfoot and fallen transverse arch.

The exercises are simple and are made clear by the illustrations, almost without reference to the text. The description of each exercise is concise and clear.

This book will prove of value not only to the physician who wishes to prescribe definite exercises, but also to the layman who desires to strengthen his muscles and improve his posture. A. O'R.

NERVOUS AND MENTAL RE-EDUCATION. By Shepherd Ivory Franz, M.D., Director of Laboratories, St. Elizabeth's Hospital (Government Hospital for the Insane), Washington, D. C., Professor of Psychology, George Washington University. New York. The MacMillan Company. 1923.

To one not familiar with the standard works in psychology like that of Professor James or the books on special training like that of Frenkel, Professor Franz' book will bring in not too compact form the essential principles of re-education in lesions of the nervous system and disorders of the mental and nervous functions.

One may easily differ from his views at a number of points. The rather ex-cathedra analysis of occupation therapy as applied to the psychotic is one of these. We have not worked in this field long enough to be quite dogmatic in stating the complete factors involved.

On the whole the book may be commended to those who are making new incursions in this rather new but very interesting field of restoration.

It is to be regretted that the proof-reading of the book was not more carefully done. There are many typographical errors.

M. A. B.

THE COLLOIDAL STATE IN ITS MEDICAL AND PHYSIOLOGICAL ASPECTS. By Sir William M. Bayliss, F.R.S., M.A., D.Sc., LL.D. Professor of General Physiology in University College, London. Henry Frowde and Hodder & Stoughton, London. Oxford University Press, New York. 1923. Price, \$2.15.

From the Oxford Medical Publications there has been presented to the medical profession a volume small in size but big in importance, "The Colloidal State and Its Medical and Physiological Aspects." This publication by Sir William Bayliss, Professor of General Physiology, University College, London, calls our attention anew to the fact that the science of medicine is not made up primarily of the divergencies from the normal in the physics and physiology of the tissues and organs of the human body, but that in the electro-chemical activities of the atoms and subatomic particles of the cells themselves lie the processes and functions upon which life is dependent.

This to a degree has been recognized and accepted by the biologist and laboratory worker in physiology and pathology, and by the biochemist, but the clinician has for years been a traditionalist in dealing principally with gross organic phenomena in every field of his work. Even recognizing that chemical changes are going on in the various tissues and organs of the body we have been willing to make use of that which was most easy of proof in experimentation, as in the demonstration of crystalloids in solution in blood or in urine.

Bayliss accentuates, and with justification, that there is another group of chemical substances of still greater importance to normal and life-giving phenomena, namely, the colloids, present in all living cells.

Both the general properties and principles of activity of the colloids, within and without the body, Bayliss describes, as well as their reaction to crystalloids and relation to the living phenomena.

In Henderson's "The Fitness of the Environment" there is brought out the possibility of living organisms having had their origin from a common homogenous colloid mass in uniformly and most dense media as in the bottom of the deepest waters on the surface of the ocean's bed. Since crystalloids run true to form, and have throughout the history of scientific observation; since their origin, their morphology, their manner of production, their properties and pur-

poses, are demonstrated to a degree of truth, we have like justification in drawing a similar inference in reference to the processes, properties and forms of the associated life qualities of the colloids.

Hence all the more reason why the medical profession in the search after the principles and means of producing and maintaining normal and healthy organic life, should give more serious study to the structure and functions of those more vital and ultimate elements back of normal physiology and health.

It is accepted that the physical substances such as tissue cells, red and white corpuscles and the many constituent chemical elements, as sodium, iron, iodine, calcium and potassium, are of vast importance in body functions. But of relatively greater importance is our having the knowledge and being able to make use of the facts bearing upon the physiology and the active processes of the various colloids in the tissue cells and those coursing freely in blood and lymph streams of the living organism.

It is, as brought out by Bayliss, necessary for normal renal function and the avoidance of venous stasis that the colloidal osmotic pressure of any solution added in case of renal insufficiency, be equal to the blood colloids. Otherwise the osmotic pressure of the blood is changed and the resistance to filtration is overcome, and edema is either induced or one already existing continues?

Bayliss refers to Martin Fisher's theory, "that the addition of acids to the blood colloids increases their volume by swelling, that osmosis is increased, filtration occurs through the capillaries, edema resulting. But he quite as strongly points out that Loeb discounts this theory, holding that the same conditions would exist, both within and without the vessels, and thus an equilibrium or failure of osmosis result.

How many clinicians today approach the therapy of venous stasis other than empirically? Are our alkalies and diuretics given on the basis of the facts involved? Do we still visualize microscopic "tubules and tufts" and see crystalloids exchanging through membrane? Or do we accept the proven theory of colloid chemistry and practice it intelligently?

The chapter on "physiological action" demonstrates the method of activity of colloidal metals used therapeutically and shows how they function when in the circulatory system, uniting with other chemical particles and due to their slow movement come in contact with the diseases or involved elements and chemically neutralize or antidote the invading foreign substance.

Proteins as nutrients in the blood stream, bacteria and other infective and fermentable organisms in the system, are colloids, and are all most important in health and disease. Bayliss accentuates this, but holds that whether as nutrients or in the form of bacteria or protein products of bacteria, their physical and chemical reaction merit more thorough study. Especially does he point out the necessity of much more investigation of the properties and value of hemoglobin, the blood protein combined with iron, as are shown in the publications of Haldane, Barcroft, Adolph and Henderson.

While not intensive or voluminous this thoroughly scientific and practical work on the "Colloids" by Bayliss deserves careful study by the medical profession.

S. P. C.

Ballot on amendments to Constitution will be cast February 26. Every physician should vote for amendment No. 5 and induce others to vote for it.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

Volume XXI

ST. LOUIS, MO., MARCH, 1924.

NUMBER 3

E. J. GOODWIN, M. D., EDITOR
3529 Pine St., St. Louis, Mo.

PUBLICATION { W. H. BREUER, M. D., Chairman
COMMITTEE { S. P. CHILD, M. D.
M. A. BLISS, M. D.

ORIGINAL ARTICLES

THE BLADDER IN OBSTETRICS AND GYNECOLOGY*

EDGAR F. SCHMITZ, M.D.

From the Department of Gynecology and Obstetrics, St. Louis University Medical School

ST. LOUIS.

In a paper the scope of which is limited by the short time allotted it is manifestly impossible to cover all changes affecting the bladder in obstetrics and gynecology. A few of the most important conditions will therefore be presented, stressing the etiology and pathology and pointing out their significance in general practice.

The interrelationship of the bladder and the female generative organs is almost an inseparable one, both anatomically and functionally. Blood, lymph, and nerve supply have much in common, and the close proximity of the lower urinary tract to the uterus has a direct bearing on the changes produced in either set of organs when pathological conditions arise.

In pregnancy, even at a very early stage, the genital tract becomes hyperemic and the bladder naturally shares in common with the other pelvic organs the resulting congestion. This is due primarily to the augmented blood supply, and secondarily, to pressure resulting from the increase in the size of the growing uterus.

As a result of these two factors we often have those distressing symptoms of bladder irritability manifested by frequency of urination and disuria. These symptoms often persist throughout pregnancy, but usually subside as the bladder is partially lifted out of the pelvis by the upward pull of the pregnant uterus, and are in no sense to be classed as evidence of an existing cystitis.

These changes, however, although produced by perfectly physiological processes, are fertile soil for the development of those abnormal conditions so frequently encountered.

Wherever we have pressure there results a change in contour of the organ pressed upon

and this in the case of the bladder often leads to an insufficiency in its capacity to completely empty itself, with a resulting quantity of residual urine. This, coupled with the existing congestion, is excellent media for the growth of bacteria, and should these now enter the bladder a resulting cystitis is produced.

As the trigone is the most dependent portion of the bladder, and as the hyperemia is greatest in this locality we here have the logical seat of that most annoying condition, a trigonitis.

Infections of the upper urinary tract cannot be dealt with here and we will therefore now turn to those injuries of the bladder and its fascial support brought about during labor which produce a symptom complex of a progressive nature, the end results of which often lead to serious disability and semi-invalidism.

It is very generally understood that long labors, contracted pelves, instrumentation, etc., produce traumatism of the pelvic floor and cervix, often of considerable degree. It is, however, not such common knowledge that the bladder is injured in some manner in almost every delivery.

We have already observed that as the uterus slowly rises out of the true pelvis it lifts the upper portion of the bladder with it, thus materially elongating this organ. The base of the bladder however is firmly fixed by its fascial attachments and is unable to partake of this upward movement. Thus, when labor pains begin, this lower portion is put upon a considerable stretch.

As the cervix gradually dilates and becomes effaced this tension is materially increased by the steady upward trend of the pull. When, therefore, the expulsive force reaches its maximum intensity, that is, when the head rests upon the pelvic floor, there is a tremendous back pressure on the uterus which still further increases its upward pull and places the fascial attachment between uterus and bladder under extreme strain.

If this tension becomes too great there results a separation in the fascial plane close to its uterine insertion, with a consequent loss of support to the bladder when delivery is com-

*Read before the St. Louis Medical Society November 20, 1923.

plete. Thus the underlying pathology for the development of a cystocele is established, and when the patient assumes the erect posture the pressure from above, coupled with the defect in structure below, allows the bladder to sink deeper into the pelvis, producing a true cystocele.

Any injury involving the fascia about the base of the bladder may distribute itself to adjacent parts, and the vesical sphincter is frequently the seat of such an accident. A partial separation of its fibers, together with the loss of fascial support, often leads to most annoying symptoms.

The woman who has complete control of her bladder under ordinary conditions, but who passes a few drops of urine when she laughs heartily, coughs or sneezes, is a victim of this sphincter injury, which is usually accompanied by a sagging down of the upper end of the urethra. Fortunately, a simple operative procedure carried out at the time when the cystocele is repaired will permanently relieve this condition.

Turning now from fascial ruptures to pressure pathology, we have many degrees of bladder injury from edema through hemorrhage to necrosis. This latter condition is the end result of extreme long continued pressure which ultimately destroys the tissue, and is perhaps the most frequent cause of vesico-vaginal fistula.

The management of a difficult labor with little descent of the head over long periods of time without active interference, is a most reprehensible practice. The situation becomes doubly serious if under these circumstances the patient is allowed to press on a partially filled bladder.

To avoid fistula formation, labor must be progressive and moderately rapid, after the head has become fixed in the pelvis, and no second stage should ever be conducted with a full bladder.

Fistula resulting from instrumentation is always the result of a faulty technique on the part of the operator unless some pre-existing pathology in the pelvis predisposes to bladder laceration, which need not be discussed here.

In the puerperium there are just two points which I wish to stress. First, that the over-stretched and relaxed bladder has an increased capacity and does not always completely empty itself, thus becoming a reservoir for residual urine.

This is fertile ground for the development of a cystitis, and in this class of cases should be combated by daily catheterization until the ability of the organ to rid itself of all urine has been re-established. Second, if the catheter is used, an injection of some antiseptic, prefer-

ably one of the silver salts into the bladder, becomes imperative to guard against infection.

I have concentrated my efforts in this presentation on the interrelationship of birth injuries to gynecological conditions, and thus far have avoided discussing malpositions of organs and tumor formations in the pelvis.

Naturally, any new growth developing in a region where the bony parts permit of only limited expansion, must of necessity exert pressure on the adjacent organs and distort them by direct pressure or pull. Likewise, malpositions must distort the bladder by the same process, pressure in the case of retroversion, pull in descensus.

The symptomatology thus produced is too obvious to need special elucidation. Suffice it to say that the bladder when thus effected functions abnormally, becomes the seat of pathological changes, and should be relieved as soon as possible.

The destructive tumors as seen in gynecology may arise primarily in the bladder but most often are secondary to a malignant growth in some other part of the generative tract, especially in the cervix. The close anatomical relation between the lower uterine segment and the bladder wall gives ready access to the spread of cervical carcinoma to the vesical neck.

As a discussion of the question of cancer would however lead us far afield, the subject can only be mentioned in a paper of such limited scope.

In closing I should like to say a word about inflammatory conditions in the pelvis and their relation to the bladder.

We may roughly divide these conditions into two groups. First, those that actually show involvement of the entire vesical wall; second, those which involve only the peritoneal covering of the bladder.

An example of the first type of case would be a parametrial collection of pus which had burrowed its way up to the vesical wall and there produced those extensive changes which we see characterized in the cystoscopic picture by extensive bullous edema over the entire area affected.

The second group is exemplified by the adhesions between bladder and adjacent organs we so frequently encounter when operating for chronic salpingitis, or other inflammatory conditions in the pelvis.

The symptomatology in the first group is obvious, although the pain caused by the primary lesion may mask the bladder symptoms. However, an examination of the urine coupled with the cystoscopic picture will at once show the vesical involvement.

In the second type of case the bladder, while

not actively involved, may become distorted by fixation or pull and thus function improperly. Especially is this liable to influence the ability of the organ to empty itself properly, thus causing some residual urine to remain in the bladder.

301 Metropolitan Building.

SERUM PROPHYLAXIS OF MEASLES

S. E. PESETKE, M.D.

ST. LOUIS, MO.

Any measure aimed at the reduction of childhood mortality and the prevention of mass infection by virulent disease is worthy of serious consideration and investigation. I may, therefore, be pardoned for adding to the reports already available further evidence of the efficacy of convalescent serum in the prevention and abortion of measles.

Men of experience are agreed that, contrary to lay and perhaps some medical opinion, measles is a disease which presents many serious aspects, very often proves fatal, and is productive of complications and secondary infections greatly to be feared. This is especially true in the first year of life, when measles mortality reaches 20 per cent, and in the greatly debilitated, highly rachitic or actively tuberculous child. As these types are found chiefly in asylums, hospitals and other institutions of group child care, where the child's protective forces are very often at low ebb, it is to these instances that the greatest amount of preventive effort should be directed.

Much has been done in the past decade both here and abroad in the control of measles. In 1915 Charles Herrmann, of New York, endeavored to convert the temporary immunity which infants under five months of age appear to possess, into a permanent immunity by inoculating the nasal mucous membrane of these infants with swab material from the nasal mucous surfaces of otherwise healthy measles patients. He reports good results with this method and recently advocated its adoption, with certain modifications to exclude extraneous organisms in the swab material. The danger of inducing a severe attack of measles and the difficulty of excluding virulent extraneous organisms bring the advisability of general application of this method into question.

Maggiore, in 1915, seems to have been the first to attempt "immuno-prophylaxis" of measles when he withdrew blood from measles patients about the tenth day after the temperature became normal, and injected 2 c.c. of the preserved serum subcutaneously in several hundred children in an institution where

measles had appeared. The injection was repeated in 24 hours. There were no ill effects, and protection was complete in all but a very few instances.

Degkwitz, of Munich, has published several comprehensive reports on the use of convalescent serum on a large scale. His work may be summarized as follows:

1. Blood should be obtained between the seventh and fourteenth day after the fall of temperature (non-syphilitic and non-tuberculous subjects).
2. Blood of various patients should be mixed to obtain full benefit of the varied antibody content.
3. Serum may be used fresh or preserved with phenol.
4. Adult cases of measles seem to afford the most potent antibodies.
5. Two to five c.c. serves as an immunizing dose if given within four days after exposure to infection.
6. If delayed until the fifth or sixth day the dose should be doubled; after the eighth day the serum is not effective.
7. The immunity conferred may last from two months to a year or even longer; it is not entirely a passive but rather a mixed immunity.
8. It is suggested that hospital stations be established where serum may be stored in large quantities for use in an approaching epidemic and in child-caring institutions.

Many instances of late administration of serum with resultant very mild abortive measles have been observed. Inasmuch as the immunity conferred by this mild attack is apparently permanent (i.e., as much so as unmodified measles) as contrasted to the short protection afforded by the early administration of serum, the former procedure seems to be the ideal. However, it is frequently difficult to determine with accuracy the stage of the incubation period, and it is therefore advisable to inject as soon after exposure as possible.

My opportunity to try this method presented itself during the widespread epidemic of the spring of 1923, when the first case of measles in the Central Institute for the Deaf appeared in a boy 10 years old. The school has an enrollment of about 40 boarding pupils, ranging in age from 3 to 15 years, the majority above 5 years. Because of their defects many of these children had not come in the usual contact with contagion abounding in public schools and other associations of the early years. More than 20 pupils presented a definite history of "no measles." Average age of these pupils was seven years.

The first sign of illness in the case mentioned was the appearance of a profuse rash; many of the pupils had therefore come in intimate

contact with the patient on the playgrounds, in the dining room, class rooms, etc., during the catarrhal stage. Isolation was not complete for at least another 24 hours. On the following day 20 pupils were injected intramuscularly with 2 to 3 c.c. of serum obtained from adult patients at the City Hospital 7 to 12 days convalescent. No reactions whatsoever were noticed. Two days later one of the pupils presented a very mild measles rash, with practically no catarrhal symptoms preceding and very little temperature. She was clinically well in another day or two, and the time relationship establishes this as an abortive case due to late injection. All others have presented no clinical measles since injection. One child, whose parents refused to sanction the procedure, developed typical measles about a week after the initial case.

The results were very gratifying, as further spread of the disease would have necessitated the closing of the school due to difficulties of isolation; and also in that many susceptible day pupils were spared the exposure to classroom contagion.

CONCLUSIONS.

1. Intramuscular administration of blood serum obtained during the second week of measles convalescence is highly effective in the prevention of measles.

2. Immunity is temporary and of relatively short duration—perhaps fourteen months as a maximum.

3. Late administration (fifth to sixth day of incubation) greatly modifies the clinical picture, producing a very mild course with establishment of complete immunity.

4. The method is particularly adapted to the protection of large groups of children in institutions; especially those groups that are undernourished, rachitic or tubercular.

4668 Pershing Ave.

BIBLIOGRAPHY.

1. Herrmann, Charles. Arch. Ped. 33:503, July, 1915. 39:607, Sept., 1922.
2. Maggiore, S. *Pediatrics*, 29:873, Oct., 1921.
3. Degkwitz, R. *Zeitschr. f. Kinderhik.* 25:134, 1920. 27:141, 1921. 29:127, 1921.

RECTAL EXAMINATION IN THE CONDUCT OF LABOR*

LESLIE A. WILSON, M.D.

CAMERON, MO.

In 1843 Oliver Wendell Holmes published a paper entitled "The Contagiousness of Puerperal Fever," citing several clinical cases as proof. His views met with severe opposition from the leading obstetricians of the day, and

made slight impression on the profession as a whole. Four years later Semmelweis, then a young assistant in the clinic at Vienna, conducted an investigation of the high mortality rate in the doctors' clinic as compared with that of the midwives. He came to the same conclusion as Holmes concerning the infectious and contagious character of puerperal fever. To Semmelweis and Holmes must be given the credit for the discovery of the greatest factor in childbed mortality.

Since the introduction of antiseptics by Lister in 1870 a gradual change has taken place in the field of obstetrical technic. Women were then delivered under a carbolic acid spray. Later the hands and instruments were recognized as a vehicle of inoculation and asepsis came to the foreground. About 1880 women in labor were given bichlorid and carbolic douches, before, during and after delivery. This was discarded as both harmful and dangerous. A strict aseptic technic is now practiced to the exclusion of all others.

In spite of these precautions the puerperal death rate remains high. In 1917 before the New York Obstetrical Society, Dr. J. B. DeLee said, "Taking everything into consideration, I feel sure that the statement cannot be contested that 8,000 women die annually in this country from puerperal infections." In 1910 the death rate from puerperal septicemia in New York City was 18 per cent, outside New York City 28 per cent. For 1921 the mortality rate was 12 per cent and 21 per cent respectively.

These figures cannot be cited as an arraignment of the physicians of this country, although it is actually true many women lose their lives because of the lack of proper obstetrical training of physicians. Ordinary surgical technic should reduce these figures to almost zero. They are appalling to look upon and ghastly to consider.

The results of perfunctory preparation of the external genitalia have proved unsatisfactory. Antiseptic douches have given way to the use of gloves, a long step toward the goal. Yet we have not limited the number of times the vagina is invaded, often under the obstruction of bed linen and without proper precaution of external preparation. The operation of delivery and the accompanying vaginal manipulation is still performed "*inter feces et urine*" with a technic not worthy of the incision of a boil.

Any method in the conduct of labor which will reduce the number of vaginal examinations will reduce the chance of infection to the same degree. In 1893 Ries and Kronig recommended rectal instead of vaginal examination in labor. The method was little used until a few years ago, when the coming of rubber gloves

*Read before the Clinton County Medical Society, October 26, 1923.

brought it into popularity for pelvic exploration in labor. Its usefulness has steadily increased from the simple determination of the advancement of the head to a recognized method in all phases of obstetrical practice.

Fully 95 per cent of all normal labors can be conducted without vaginal examination. Antenatal pelvic measurements have of course been made. Abdominal palpation, frequent auscultation of the fetal heart-tones and exploration of the pelvis by the rectal finger give the required information concerning the progress of labor. The size of the cervix; its position and amount of effacement and dilatation; the degree of engagement, the presenting part, breech or cephalic, head or footling, brow or face, anencephalous, hydrocephalus, prolapsed cord, placenta praevia, the presence of the bag of waters, abortion in progress, can all be diagnosed without vaginal invasion as the rectal touch becomes more acute.

The technic is simple. The rubber glove is slipped on the hand corresponding to the side of the patient from which the examination is to be made. Lubricant is placed on the index finger. In approaching the anal orifice it is best to bring the finger from below upwards to prevent soiling the perineum. The external hand presses the presenting part down from above the symphysis. The relaxed sphincter during labor presents little resistance and if gently done little pain is felt. After a short time the finger becomes educated and the rectal findings are as clear as per vaginam.

Should rectal examination fail to reveal the desired information a vaginal examination can be made as a control after the proper external preparation.

In the out-patient department of the Chicago Lying-In Hospital and Dispensary, where thousands of women have been confined in tenement homes, this method has been almost exclusively used. There has been a marked decrease in the number of postpartum temperatures since its introduction. In both hospital and out-patient cases the interns are given instructions in making rectal examinations as follows:

1. Head or breech? Or what?
2. Position of presenting part?
3. Is the presenting part engaged?
4. Where is the cervix? How much effacement and dilatation?
5. Is the bag of waters ruptured?
6. Is the cord prolapsed? Are any other anomalies present?
7. If there is no engagement, why not? (Contracted pelvis, tumor, scars, placenta praevia?)

The advantages of the method are: It is simple. It is quick. It is practically painless. It can be used in 95 per cent of normal labors. It removes one danger in the event of Caesarean section. It earns for the physician who uses

it a justifiable ease of conscience in the event of a postpartum temperature.

CONCLUSIONS.

The mortality rate from puerperal fever is too high.

The mortality rate from puerperal fever can be reduced.

Vaginal examinations are an undisputed source of infection of puerperal wounds.

Any efficient method in the conduct of labor which will reduce vaginal examinations to a minimum will likewise reduce the infection of wounds of the birth canal.

Since rectal exploration of the pelvis in labor meets all requirements in at least 95 per cent of normal cases it should be given a thorough trial, learned through experience on private cases with vaginal examination as a check, if necessary.

ACUTE POLIOMYELITIS*

HARRY B. NORTON, M.D.

CENTER, MO.

This group of symptoms was first recognized as a distinct disease and that the spinal cord was the seat of the lesion in about 1840 by Heine. Since that time writers have referred to it as acute anterior poliomyelitis, thinking that the lesion was limited to the anterior horn of the grey matter of the spinal cord; infantile spinal paralysis, thinking that the disease only occurred in children; teething paralysis, as all observers have noticed that it is often associated with gastro-intestinal disturbances in young children about teething time. All these names are more or less misnomers, for in the light of our present knowledge of the disease none are absolutely correct because, first, the pathology is not always limited to the anterior horn of the grey matter but is found in all parts of the cerebro-spinal system; second, the disease is not necessarily confined to childhood, although the great majority of cases occur in children under five years of age; also, a considerable number occur in older children and young adults. Therefore the name acute poliomyelitis seems to be more appropriate.

The causative agent seems to be a micro-organism recently isolated by Flexner and Noguchi. It is found in the infected and diseased organs but has not been found in the circulating blood, due very probably to its anaerobic nature.

The pathological lesion of the cord is now known to be accompanied by an inflammatory

*Read before the Ralls County Medical Society, October 10, 1923.

process in the pia mater. In fact the blood vessels of the cord and the membranes are dilated and engorged and this condition even extends to the medulla, pons and cerebral cortex in some cases. It is now firmly established that the pathological process in acute poliomyelitis is one which is primarily dependent upon the vascular and interstitial tissue changes and that the ganglion cells are secondarily affected. Briefly, the process may be summed up as taking place in this order: The poliomyelitic virus in some manner reaches some part of the cerebrospinal nervous system. Its presence excites a hyperemic condition with marked cellular exudate, hemorrhage and edema, the actual damage being caused by the pressure of this cellular exudate, hemorrhage and edema to the ganglion cells which will result in their destruction if continued, accompanied by a paralysis in the muscles or groups of muscles which they innervate.

The above description being true it naturally follows that the most vascular part of the cerebrospinal system would be the seat of greatest damage, which is correct, this being the pia mater, next the grey matter, especially the anterior horn, and least the white matter.

It so happens that the motor area of the cord is situated in the anterior horn of the grey matter and this being the most vascular part of the cord proper, it suffers the most, thus accounting for the crippling paralysis that so often follows this disease.

By a perusal of any of the standard texts on this subject you will find that this motor paralysis can occur at any level of the cord resulting in a paralysis of the muscles of the face, chest, back, arms or lower extremities, or one or more of these groups. Statistics, however, show that of all cases left with a permanent paralysis the larger percentage includes those with a paralysis of the muscle groups of the lower extremities.

The following explanation suggests itself to me as the probable reason: First, that poliomyelitis is primarily a gastrointestinal infection; this is not so improbable for the reason that a great many cases are accompanied by a gastrointestinal disturbance and in almost all cases there is usually a tympanites. Second, the gastro-intestinal tract is innervated by the spinal nerves through the sympathetic system. To be more specific, the small and large intestines, where the maximum foci of the primary infection is supposed to be, derive their nerve supply from the solar plexus, which is formed by fibers from the pneumogastric nerves and branches from the 4th and 5th lumbar and first, second and third sacral nerves. The great sciatic nerve is formed by branches from the 4th and 5th lumbar uniting with the first, sec-

ond and third sacral nerves, and innervate practically all the muscles of the lower extremities.

The explanation I wish to offer for the lesion of acute poliomyelitis being in the cord and particularly the anterior horn of the grey matter is, first, the intestinal tract is the primary seat of the infection; second, the micro-organisms of acute poliomyelitis travel through the nerve sheaths, reach the cord, particularly the anterior horn of the grey matter and immediately there follows hyperemia, hemorrhage and edema, with a secondary disturbance of the motor cells found here. As the nerve supply of the intestinal tract and lower limbs originate from the same area in the cord, the muscles of the lower limbs are naturally the first affected.

Assuming the foregoing statement to be correct, it would not be an unusual procedure as it is known that a similar condition exists in two other diseases, namely, hydrophobia and tetanus.

Treatment.—As to treatment the usual procedure can be found in any standard text, but they all deal with post paralytic treatment. However, if our hypothesis be correct, then the real treatment should be during the pre-paralytic stage. Whether or not the intestines be the primary seat of infection a thorough purge should always be given, but certainly so if this be true. Next the ideal specific treatment would be an antitoxin, if we had one, but so far there is none available.

During the course of an epidemic of some eight or ten cases in my practice during July, August and September, 1923, I come to recognize what I thought was the disease in the pre-paralytic stage, and by using large doses of hexamethylamine for its general systemic and antiseptic properties I was gratified to notice that these cases developed very little if any paralysis. Hexamethylamine is recognized as an efficient antiseptic in the presence of acid media, due to the liberation of formaldehyde, and when taken in large doses is found present in all of the body fluids; so there is at least some grounds for its administration as a specific in acute poliomyelitis.

Children bear hexamethylamine well. I have repeatedly given a child under five years of age sixty grains within twenty-four hours with no ill effect. Remembering that hexamethylamine requires an acid medium it is best always to accompany its use with occasional doses of the acid phosphates and always with as much water as the child will take.

If this treatment should prove to possess any virtue it could be given intravenously in large doses, the object sought for being to destroy

the micro-organism before it reaches the cord tract, during the pre-paralytic stage.

If its use should prove to have a specific action it could easily be used in sufficient dosage in the treatment of children's diseases or could be administered to all children under a certain age as a routine during the summer and fall months when the disease is most prevalent.

CONCLUSION.

In acute poliomyelitis the gastrointestinal tract is the primary seat of infection.

The poliomyelitis micro-organism reaches the cerebrospinal system through the nerve sheaths.

Hexamethylamine exerts a specific action on the micro-organism of acute poliomyelitis.

It is possible to recognize a preparalytic stage in some cases, especially during an epidemic, and such cases, if saturated with hexamethylamine escape the crippling paralysis.

If hexamethylamine does exert this specific action, it should be administered to all children under ten years of age as a routine during the months that acute poliomyelitis is most prevalent.

The laity often speak of it commencing as soon as the children begin to eat lots of fruit in the late summer and fall. This would tend to lend support to Saunders' contention that it is spread by a certain species of the green fly, as these flies are often present in orchards about the time fruit begins to ripen.

THE TONSIL AND FOCAL INFECTION

GEO. S. DOWELL, M.D.

BRAYMER, MO.

As long ago as 1801, Dr. Benjamin Rush contributed his "Medical Enquiries and Observations" in which he announced that persons suffering from intractable rheumatism in which drugs had no effect, should, without any further delay, submit to extraction of their teeth. About twelve years previous to this Eyerlin of Sweden had aroused interest and also ridicule with his "Materia Rheumatica ad Tonsillitis" and justice was rendered this pioneer in focal infection by Paynton and Paine of England who, many decades later, proved conclusively that rheumatic fever is caused by streptococcus rheumaticus and that the primary focus of infection is usually the tonsils.

Within more recent years the dental surgeon, Riggs, immortalized his name in his matchless studies of pyorrhea alveolaris. But it remained for Billings and Rosenow in 1909 to publish a series of epoch-making contributions to lit-

erature of the subject, the result of an extensive experience, in the light of modern bacteriological and pathological study. I think it is estimated that more has been written on focal infection in the last ten years than on any six subjects. The laryngologist does not or should not take all the credit to himself. There is honor enough to go around, but of all the diseases of the human body that are due to focal infection, that infection may be found in 80 per cent of cases above the collar bone. Why is this? From their exposed position, the mouth and its contained structures and the cavities connected with it, afford an ideal gateway for infection. Here we list the teeth, tongue, tonsils and the accessory nasal sinuses.

The tonsils possess far more importance in the production and dissemination of disease than is usually accorded them. The crypts of the tonsil, usually twelve or fourteen in number, are especially adapted as culture tubes. Some of these crypts are open and some are not. The ones that are not are the ones that are the most harmful. Drainage here is like in any other part of the body; the better the drainage of a cavity that needs it, the less danger of systemic infection. By repeated attacks of tonsillitis many of the crypts close by exudation from inflammation. Some of these crypts are very deep and decomposed food with bacteria are found in abundance. You have probably noticed that quinsy occurs numbers of times in the same individual. Here is a case of deep infection, or infection in a deep crypt. Such patients will continue to have quinsy until they have a thorough tonsillectomy. I have operated such patients for removal of their tonsils and it has so far resulted in cure. When I can do a perfect tonsillectomy on patients that must come on crutches to get into my office and see them recover from rheumatism in almost the length of time it takes the throat to heal, then it makes me believe in my surgery.

The question of what kind of tonsil, either the submerged or pedunculated, should be removed, is often asked. The erupted or pedunculated tonsil, which is observed in children, is almost always associated with adenoids, and in such children we find stunted growth, both physically and mentally. This being the case there is no doubt in my mind what the treatment should be. Then with the submerged, which are usually found in adults, having no means of drainage, and we have all the symptoms of a focal infection and this infection is far reaching in its effect on the patient. Interference with drainage of the tonsil is a fruitful cause of infection. Sometimes we look in a throat and see what appears to be a very inoffensive tonsil. In this case if you will take a small wood tongue blade, or any flat instrument

and begin at the base of the tonsil and push outward and upward you will find pus exude. This apparently harmless structure may be instrumental in implanting serious disease or perhaps destroy life. The submerged tonsil with large spongy upper lobe hidden in the supra tonsillar fossa is the one commonly associated with focal infection. Again the large spongy tonsil is to be regarded as a possible source of infection whether out in the throat or buried beneath the pillars of the fauces. This axiom may well be followed: A tonsil is dangerous in proportion as its drainage is affected. Then we should have some routine method of examination. First, look for areas of dusky redness along the inner border of the anterior pillars; second, determine the consistence of tonsil; third, are they congested; fourth, look for lymphatic nodes at the angle of the jaw and are they painful. As to the exuded material from the tonsil, we can find the streptococcus aureus and albus and according to internists the streptococcus hemolyticus has a special predilection for heart muscle.

Tonsillectomy is not yet a perfect operation, nor is it an absolute safe procedure. There are so many things can happen in the short time that it takes to do a tonsillectomy. There may be difficulty from bleeding and in such cases those that have done this work know how difficult it is to get all the tonsil. No surgeon should undertake the operation lightly. He should be equipped with all the necessary appliances as well as a knowledge of this work. I have seen some of the best men in the land work in the throat and I have seen them do what seemed to me bad operations.

According to the advocates of X-ray and ultra-violet rays, some day we will have a perfect treatment for diseased tonsils without the attendant dangers and loss of time incident to the present mode of treatment. Dr. Ira A. Denman of Toledo, Ohio, in his contribution to *Eye, Ear, Nose and Throat Monthly* for July, makes the statement that he can entirely destroy the tonsil and all lymphoid tissue in the throat by means of the ultra-violet ray, but that he does not care to reveal his technic at this time, but that he will probably have something more to say in the near future.

I will quote him: "As the lymphoid tissue is absorbed by the action of the rays and the tonsil contracts, the crypts and fissures are obliterated and the pus squeezed out of the tonsil like fluid from a sponge onto the surface of the organ, where it may be seen during the progress of the treatment. As this goes on and the tonsil surface becomes smaller and smaller, the application of the ultra-violet ray renders it sterile. Eventually the tonsil becomes a small hard fibrous nodule devoid of

lymphoid tissue and cleared of infection. In short, the treatment does for the diseased tonsil, in a few weeks, what nature does to the normal tonsil by the time adult life is reached."

It has been my good fortune to examine lately one woman that had subjected herself to this treatment. Inspection of the throat showed the fossa tonsillaris quite large and also fairly empty, but a few crypts that yet remained and these crypts still appeared infected.

SPECIAL ARTICLE

ORGANIZED MEDICINE: ITS POSITION AND RESPONSIBILITY*

SCOTT P. CHILD, M.D.

KANSAS CITY, MO.

The recognized professional organization of Kansas City, Jackson County, Missouri, having to do solely with public health and the practice of medicine, is this organization, The Jackson County Medical Society now being addressed. This Society is a basic unit of a larger organization, the Missouri State Medical Association, which latter in conjunction with like organizations of the other several state associations of the United States of America, make up the recognized national medical body, The American Medical Association.

The American Medical Association, organized as an instrument to represent and develop scientific medicine and to promote and maintain public and national health, is a scientific body, constituted solely for altruistic purposes to serve society. It is composed of individual graduates of the recognized, accredited, regular medical schools of the world, who possess current membership in their local, county or unit societies. Such men and members are trained in the fundamental branches of history, literature, language, sociology, general and biological sciences, and other required broad collegiate subjects, previous to the four long years of study of specific biology and medicine, and the required practical bedside and hospital term following.

With the rapid progress in general and medical education of the past ten years, forced by scientific advance, public opinion and an awakened legislative and political conscience; with social, industrial and economic demands never before known in history; with new local and national problems and an international relationship acquired because of the recent world war and the common human problems of commerce, immigration and pandemic disease, we

*President's Address, Read at the First Regular Meeting of the Year, January 8, 1924. From Bulletin, Jackson County Medical Society.

the regular medical profession have been singled out and had placed upon us the greatest responsibility known in our professional career. Such is likewise true of the British Medical Association and the organized medical associations of all world powers.

In the making of nations, states, cities and hamlets for the safe habitation of man, medical science and medical men are called upon to clear the way and to clean the air, soil, water and food of the vegetable and animal parasites pathogenic to mankind. In training men for armies, in protecting men in battle, in restoring them after disastrous casualties, it is medical science and medical men, members of this and other unit societies, the world over, who are called upon, respond and serve unto death, that the human race may be preserved and that peace and good order may again the sooner return to disorganized, shattered society.

In public health and sanitation in general, in all research and pioneer medical work, individual members of the regular profession have been called upon by this and other governments, have always responded, so that today organized human society has it within its power to live safely anywhere. The plague, yellow fever, hookworm, malaria and many other diseases now are either harmless to man or practically eliminated from his environment. Typhoid and tuberculosis are fast disappearing or losing their virulence. And it is solely due to the courageous and unselfish service of the medical and allied professions of biology, chemistry, sociology and engineering that such works have been wrought. It isn't a doubtful claim. It is an accepted fact said positively, but modestly. The names of Pasteur, Reed and Gorgas need alone be mentioned.

In the economic fitness of things it was not meant, nor is it possible, for one man or for one group to conduct all the offices nor to perform all the functions of society. Among social groups and in segregated centers of population the various lines of social endeavor and utilitarian care have been chosen by qualified individuals in the interest of public welfare, or delegated to them by common social consent. Hence medical science and the profession of medicine. The reason and justice of this position of service, assumed on the part of the regular medical profession, is self-evident. If a municipality is to span a river with a steel bridge or a railroad company projects a new line over a mountain range, an engineer and one thoroughly trained and experienced is engaged, not a log roller or a mountaineer. No more can society safely use or permit to flourish the many unskilled and untrained groups who today "flaunt their words and wares" over the credulous ill and the helpless and uninformed inquiring multitudes in our midst.

Quackery and charlatanry posing in the name of medicine, must go. Healing under the cloak or in the name of religion and by means of superstition and necromancy must be relegated to its proper position of oblivion and inactivity. Modern knowledge and scientific aid must be advanced and made available so that all society can be properly informed of the facts in life bearing upon their physical and mental welfare and be permitted to enjoy the best of health and a greater longevity.

TWO FUNCTIONS OF ORGANIZED MEDICINE

Today the organized medical profession has two most important functions to perform for society. First, to assist the state in establishing an ideal and wholesome environment into which normal children may be born and naturally reared. Nothing should permit the thwarting of such an attainment. Second, we should urge and aid, by every possible means, the prevention of all disease and its cure when contracted.

It is generally accepted that society and government have it largely within their knowledge and power to prevent and control most specific transmissible disease. That is, that the large majority of the pathogenic infections can be prevented from entering a group of human beings or their particular habitat, as bubonic plague and yellow fever; or an immunity can be developed as in typhoid, smallpox and diphtheria. However, recurring epidemics of smallpox, diphtheria, pneumonia and the prevalence of specific venereal diseases, impress us that we are not, even with our great knowledge and power, controlling or preventing the initial cases or their recurrent appearance in epidemic form. The speaker's contention is that in most American cities the known rules of prevention are not enforced on the part of those appointed and authorized to exercise preventive measures. In addition, in spite of the opinion of science and the fact that world leaders accept the simple but effective rules of health laid down in the Mosaic law based on observation and its record, and the results of accepted experience and research, sectarian and individual prejudice and illiterate objection weigh against best judgment and the experience of the qualified servants of society.

RELATION TO LOCAL PUBLIC HEALTH

Specifically it should be urged and insisted in Kansas City, Missouri, with our knowledge of the means to stamp out certain diseases and with our laws for enforcement, that the medical profession, the board of health, the board of education, industrial plants and places of business employing large numbers, be instructed to co-operate in the prevention of all

possible contagion by the means which we possess.

London, England, has recently reported (J. A. M. A. October 20th, 1923, p. 1374) upon its experience with smallpox for the past 32 years, with results simply phenomenal. First they have laws which are enforced; second, they have a "smallpox" hospital; third, they have two men, Dr. Thomas F. Rickets and Dr. McConnell Wauklyn, the former who has specialized in the interest of London's population solely on smallpox since 1892, and the latter as director since 1904. In the 16 years previous to Dr. Wauklyn's directorship there were in London 15,587 cases of smallpox; in the 16 years since, only 282 cases. In one year following the European war there was not discovered a single case of smallpox in London. London's custom is, on the discovering of an individual case, to seal the house where resident lives, isolate the patient and vaccinate all contacts, which contacts are under periodic observation until the incubation period is past.

Kansas City should not await the recurrence of another smallpox epidemic with the experience of two years ago. Its system of inspection of all groups should be annual and rigid. All children not showing a vaccination scar, evidence of having had the disease, or an immunity, should be vaccinated against smallpox at a definite age. Original cases should be isolated in smallpox hospital, disinfection of premises carried out and vaccination of non-immune contacts should follow. There should be no exceptions. Such procedure would soon aid in lowering the incidence of the disease, eliminating mortality and permit uninterrupted the legitimate and regular commerce of the city so sadly and needlessly interrupted in our last severe epidemic.

With the increased positive data about the prevention and treatment of certain infections, such as diphtheria, typhoid, pneumonia, cerebrospinal meningitis and tetanus, a qualified committee from the Society should sit with and advise our board of health relative to their control and thus soon reduce to a minimum the incidence of and absolutely prevent deaths from such diseases. In fact the medical profession, health boards and governments possess the scientific information and the necessary means to control and prevent such diseases so that the state should solely consider society in the event of any person having contagious or infectious disease. The will, though not the welfare, of the individual should always be sacrificed.

In connection with the production of milk and all food and its distribution, the maintenance of a large and pure water supply, the collecting and disposal of garbage, the sanitary condition of streets and alleys and the develop-

ment of more ideal housing standards, we should not only be interested but be taking the most active part. Imperfect control of such departments and the lowering at any time of their highest standards simply invites indifference and the inevitable entrance of disease. Let us not forget our duty here and with the increasing needs give greater service when and where possible.

VENEREAL DISEASES

Only in a tentative, incomplete, impractical and unscientific way are we medical men handling the prevention and treatment of venereal disease. If a copperhead or a wolf were about to spring upon a child in our presence we would shoot it down before it struck. We would not play with such a situation as does a cat with a mouse. But such has been our reaction to the problem involved in the etiology and treatment of both gonorrhea and syphilis since the crusades. And in much the same spirit and method does each generation of physicians approach and meet the problem; always treating results, sequels, the precipitating, inciting factors never being removed.

Millions spent in research and diagnostic tests and millions more spent by the afflicted for a hoped for cure are burned annually, seeking a sage harbor, or a nirvana, which may or may not be attained. Even the powerful agents mercury, arsenic, silver and iodine do not completely eliminate the offending organisms nor rid society or these frightful diseases and their ravages.

The sociologists and reformers of the country, government officials and scientists with national organizations, are studying and fighting the disease and the problem. Locally the social hygiene society and allied groups, with the assistance of hospitals, clinics and social service workers are doing an intensive and a practical work. Recent legislation requires the reporting of acute venereal disease to the board of health. But while Rome burns, Nero still plays. And we ask why, rather than how.

Men, it is you, the intelligent, scientifically trained medical profession, knowing the abnormal variants in human emotion and the elastic judgment of developing civilization, who must arise to the solution of this problem. It is for you with your knowledge of the specific origin and the inevitable ravages of such infection, to demand that the sterilizers of your sons, the robbers of the motherhood of your daughters, the precursors of paretics, and the direst of homebreakers, gonorrhea and syphilis, be placed where they should be among the earliest of reportable diseases and that their hosts be segregated and scientifically and systematically treated until all possibility of transmission be removed. An infected wife, an ophthalmic off-

spring, a paralytic daughter, an imbecilic son, a case of aortic insufficiency, surely justify in their multiplicity of limitations in unhappiness, untold suffering and wasted millions, the serious consideration by us, the advisors of empires and emperors, of methods and means within our knowledge and power, to stamp out such preventable destroyers of human tissue, life and character.

Sexual intercourse has but one purpose in the scheme of the persistence of living matter, namely, that of the reproduction of species. In social relationships, if the human species is to be preserved and ascend in accordance with the law of evolution, sexual promiscuity must cease. A single standard of the sexes must prevail. Our present social environment must change.

If these facts are taught in all seriousness by the biologists and medical advisors of mankind the incidence of specific disease will be reduced to a minimum, their physical and neurologic complications will disappear, and 50 per cent of all serious social problems will be met.

Our committee on genito-urinary disease, in all good faith should volunteer their aid to the city authorities in both the health and police departments; to the civic and social organizations interested in a changed environment; to their private patients and to the public at large so that many of the early and strongest of contributing causes to this group of preventable diseases may be removed. As probably our most important social problem today such would aid materially in its solution.

PROFESSIONAL ETHICS

Stuart Sherman, who wrote "The Genius of America," has given utterance to a statement on contemporary American writers of romance, in which he says, "The average American novelist clearly lacks two essential qualities meriting his reader's recognition and support," namely, "honesty and morals." In connection with the subject of medical ethics, either in reference to this Society's attitude on matters of professional and public welfare, or in case of correct conduct for an individual where decisiveness is important, these same two principles should obtain. Honesty offers the starting point and basis in all voluntary acts in social, commercial and professional intercourse.

In surgery, the individual surgeon, confronted with a case, is tested out on honesty of judgment; first, in his decision as to the indication for operative interference; second, and just as important, his qualification to undertake and to carry through the operation

proposed, in the best interest of the patient and the advancement of his specialty.

The doctor or consultant is honest who charges a fee solely commensurate with the specific and individual service rendered by him and in accordance with the ability of the particular patient to pay.

It is acknowledged that the first and most important duty of the physician is to render professional service and that the best, whether such service is for the rich or the poor. It is further acknowledged that one's capability and availability must be known to those who may need medical services. Society constituted as it is today with its diversified trades and professions, with its numerous groups and organizations, social, commercial and industrial, its churches, clubs, lodges and multiple affiliations, does not in the scientific medical world need for the qualified, competent physician, surgeon or specialist, any public press or spectacular advertising. The man in medicine, trained and experienced, who has established his proper relationships according to contemporary social standards and customs, is doing the honest thing and invariably receives his due and a competence commensurate with his varied capacity.

The physiological action and the therapeutic indication for alcohol has been given serious consideration for the past 25 years by the clinicians of America. The present hospital supply of such remedy and the practice of members of this Society as shown by their records for the past ten years, give us a basis of the facts as to our local reaction to this problem. Now we are confronted suddenly and personally by a federal enactment to the constitution, the result of years of serious economic study and social and legislative action, in the several states coupled with an international crisis, the world war.

County and federal officers during the past 12 months have been in conference with your executive council in connection with the observance and the support of such federal law by our members. Your council has given such authorities its unqualified approval and assistance. It is urged that every member of this Society possessing a license to prescribe whiskey be both legally and scientifically honest in his attitude and in his prescribing. The necessary discipline by your council in a few specific instances should be encouragement to the future observance of this particular federal constitutional amendment.

Morals is an end result in social relationships, not a system of rules and prohibitions. He who does what is right and honest is moral. A man is not moral because of his creed or that he belongs to the Methodist church. He is

moral because he respects womanhood and will summarily drop to the floor the villain who would bespoil his office girl. The doctor is moral and observes his principles of ethics who reports every case of measles or scarlet fever and the true cause of every death in his practice and urges the state and local boards of health to bring Missouri at the earliest possible moment into the federal registration area on birth statistics.

It is most unethical to sign petitions and write letters recommending for state licensure irregular and unqualified candidates for the practice of medicine. Our record files reveal considerable thoughtlessness on the part of some of our busy and older members in this particular. Let us pray the future months may not contribute towards any more additions to this phase of irregular medical practice in Missouri.

The principles of ethics of this Society decry all phases of commercialism among its members and between its members and institutions or organizations whose purpose or practice does not conform or is not strictly in the interest of scientific medicine and public welfare. And it is understood that the Jackson County Medical Society is the arbiter and interpreter for its membership in the county for such relationships. No doctor of medicine has to belong to the Jackson County Medical Society. Every ethical and scientifically qualified doctor should, but only in the event he desires and later does subscribe to the constitution and by-laws and the pledge which he signs on joining.

PROGRAM AND SCIENTIFIC WORK

This organization represents and has among its members the best and most productive of the medical profession of the Southwest. In our regular programs before the society membership and in our contribution in the prevention and cure of disease, as well as in our assistance toward improving local public health, we should individually and collectively be giving of our very best efforts through original papers and clinical presentations.

It is hoped that so far as possible the program committee may outline in general the years' program in advance and line up local men and their subjects as well as be prepared, through invitation, to entertain foreign leaders in medical research and thought. Such men as Flexner or Banting in research, Gorgas or Branisted in national medicine and sanitation, or Cabot or Emerson in social medicine, should speak before us and be introduced to the social and civic leaders of Kansas City.

The section committees through the chair-

men are urged to canvass the work of their membership and offer such freely to the program committee who will welcome and use it. The comment is being made that the membership in general is not being drawn on sufficiently for appearance, and further that the specialists, who have their own clubs or divisions, as the Eye, Ear, Nose and Throat Club, and the Obstetrical Section, do not contribute as often as they should to the general Society. It is probable that both of these comments should be given consideration by the program committee. Your president feels quite certain that Dr. McVay, the chairman of such committee, will welcome early, or at any time, the offer by a member who has something to contribute, to appear upon, or any suggestion for improving the program.

In addition to the one established annual dinner, i. e., "The Presidents Night," in April, it is suggested that the entertainment committee investigate the practicability of one of two other general meetings, one of which could well be a reception or entertainment for the wives of the members. Such, however, will be left to the judgment of the joint entertainment and program committees, or to a special recommendation from the council.

A SOCIETY HOME

As has been recently announced, The Jackson County Medical Society is looking back upon a history of 43 years. We are, however, as to a home the beneficiary of the city. Deeply appreciated is the municipal board of health's consideration and favor in thus setting aside during the past three years the present stack-room for our library and this auditorium for our assembly. But our present and growing needs and the dignity which we should maintain, as well as the increasing demands of the hospital for more space, urge upon us the necessity of at once entering upon plans and methods for securing what we have needed for years, a home of our own. Such a home should be practically located as regards nearness to hospitals, accessibility to our members and with space and rooms adapted to the several requirements of an active medical society. This great need has impressed many members of the society and various recommendations have been made as to location, available buildings, plan to sell or exchange our present property and the idea of entering upon some mutual arrangement with the city whereby we may occupy, with remuneration, however, a position on hospital hill, but detached from any building which should be used for hospital purposes.

This matter is to be referred to the building and home committee with instructions to enter

at once upon a practical consideration of our present and future needs and to secure if possible during the present year a home which the Society should by all means have, and which we, the Jackson County Medical Society, should out of self-respect, finance ourselves.

REVISION OF OUR CONSTITUTION AND BY-LAWS

Many comments upon and imperfections in our present constitution and by-laws have been pointed out by members of this Society and but recently legal opinion has been given that such constitution and by-laws do not conform with the Society's articles of incorporation. In the past, few occasions have arisen in which such questions have been presented, but with our possession of property in real estate, a library and the possibility and need of a Society home, surely our legal status and the consistency and comprehensiveness of our constitution and by-laws merit further careful consideration.

In the proper way and in due time a motion will be entertained looking forward to a thorough study of the Society's professional and legal needs and status as a chartered organization and a thorough revision of our constitution and by-laws, in accordance with such needs and status.

In this connection the chair gives it as his opinion that the Society should have its own legal counsel and of the highest standing to whom at any time matters of legal import and opinion could, through the president or proper officer, be presented. The size, the dignity, the legal and financial responsibility and the professional and social standing of this Society demand such connections and protection.

HOSPITALS AND CLINICS

To meet the developing needs in this city and county for practical, scientific hospitalization in general and the adequate care of the ambulatory, indigent sick, this organization should have an active hospital and clinic committee of an advisory character, qualified in all current hospital and medical matters and in modern social service methods; a committee whose recommendations would receive from any any hospital or clinic courteous and serious consideration.

Your president is naming such a committee with Dr. John Hayden as chairman. That such a committee would have several important matters to occupy its time is implied in the following: The history of hospital development in Kansas City during the past ten years, with the vicissitudes and problems of individual institutions, impress one with the need of an inter-allied hospital organization embracing all grade

A and B hospitals, for the specific purpose of increasing efficiency in policy and methods and elevating standards.

There is not a hospital which has not had its difficulties in management, in nurses' training school, in capability or character of its staff members, in purchase of supplies, in assessing just fees for rooms and laboratory service, or in providing an acceptable diet to patients. Such common problems arise and are met in one hospital. Individually or collectively they puzzle or down the management of another.

To aid in the meeting and solution of such problems, through conference and co-operation, is the reason of presenting the subject at this time. It is suggested that such proposed organization should be made up, not only of the managers or superintendents of the respective institutions, but of the heads of the several staffs, the superintendents of the training school for nurses, the managers or mothers superior, and the chairman of the boards of trustees. Such an interallied group should have a formal organization, elected officers and committees, and regular though not frequent meetings. At such meetings hospital efficiency and welfare in general would be discussed and specifically the needs and improvement of a particular institution.

We believe such organization would assist materially in maintaining the grades and standards of A and B hospitals and also in encouraging and raising the qualifications of certain worthy struggling institutions, thus making possible their admission to the higher grades. As a matter of fact the chair has discussed with favorable reception the above recommendations with the officers of some half dozen of the local hospitals.

Maternity homes, sanitariums for nervous diseases and numerous clinics exist in this city and there is evidence of a material increase in their number. Upon their staffs are members of this Society. The character of the cases cared for in such institutions vary somewhat from those in general hospitals, but the care and attention are strictly medical and should so far as they are staffed or directed by members of this Society, have absolutely the same methods and standards. Recently one group, having the most important of social and financial problems involved in the character of their patients, has been discussed by your council. It goes without saying that a qualified and established committee such as the named hospital and clinic committee could well investigate and report upon the qualifications of such institutions and very practically advise our members as to the wisdom and ethics of their connection.

With the numerous important professional and practical questions involved in the free dispensaries and out patient clinics of this city this Society must soon take some definite action. In conference with the health association of The Council of Social Agencies we believe this suggested committee can easily advise upon the character and volume of work which should be done and the districts or populations which may need and deserve, such free or small-fee aid for their dependent sick.

RELATION TO THE PUBLIC SCHOOLS

About 16 years ago, on the suggestion of members of this Society and with the approval of the mayor, the board of health and the board of education, there was organized in the public schools of Kansas City, Missouri, a department of medical inspection. With the assistant health commissioner as director, some 30 physicians, members of this Society, volunteered their services and formed the first group of inspectors. They systematically examined the children of the ward schools for evidence of acute or chronic disease or defects and gave opinion or advice upon the sanitary surroundings of the schools. Later a smaller group of this membership was hired and paid a nominal salary for the nine months of service as medical inspectors. Such system of medical inspection continued over a period of about seven years.

In recent years the health program of the public schools has broadened and there has been introduced a department of inspection and hygiene under a physician and a corps of graduate nurses, as well as a department of physical education; the whole under a lay-director.

As a result of this society's connection with the public schools, a committee on medical inspection now exists, provided for through our by-laws.

In view of the importance of the physical development and physical education of all children, the need of biological and physiological knowledge on their part, the inevitable occurrence of disease and certain mental and physical limitations among them, the question quite naturally arises as to the assistance the local organized profession might offer or give to the board of education in this particular department.

Such subject has been carefully discussed recently with the superintendent, and with members of the board of education, as well as with members of this Society. It is proposed to change the name of the committee on medical inspection to committee on health and welfare of school children, and to offer such as an

advisory committee to the board of education. It is hoped and believed that the personnel of the committee named will be persona grata with such board. Dr. Robert McE. Schauffler is chairman, with Drs. Frank Neff and E. T. Gibson as members.

THE FIELD OF POLITICS

The science and art of medicine have made such wonderful advances in recent years and medical and health knowledge possessed is so important to all society, that the question arises as to whether greater consideration must not be given to the application of such science and art to public welfare, but through political and governmental relations established by us.

This country of ours, as to its theory and form of government, is a democracy with two not unamicably related parties who go to the polls to assert their views and to elect or appoint their governing and directing officials. Upon exercising this party right of franchise we, for the term of office, go our respective ways and abide the particular party direction.

It was Lincoln who said, "When an election is past, it is altogether befitting a free people that until the next election they should be one people." Next spring there is to be a municipal election in Kansas City, Missouri. There is one office above all others in the appointment of a new administration that we medical men are and should be interested in, namely, the office of health commissioner. If a charter amendment should precede such election directing and selecting our health commissioner, well and good. But if the present charter and present method of appointment or election prevail there is a duty, and just one specific duty, for each one of us 400 to assume to see as so many Republicans and so many Democrats, that our respective party central committees and party candidates be informed and pledged to name for the office of health commissioner a thoroughly qualified medical man, whose training, habits, associates and character are known; who will be a full-time director of health, heading with skill and dignity this most important municipal office. May we as the organized medical profession work to this end, urging our respective party leaders to secure only an efficient servant who may establish standard, modern health service throughout our city.

Further does your president wish to present for your consideration the wide field of city, state and national legislative assemblies where there is need of qualified and informed physicians and sanitarians to aid the more specifically and the more rapidly the improvement or the passage of legislation, which will the sooner raise health standards and bring about the

more quickly an environment suited to the uniform maintenance of public and personal health. France, Italy and other European countries have for years given recognition to the professional standing and special qualifications possessed by their doctors of medicine and elected them to their assemblies and senate. Such should very much more widely prevail in America. The future should see the ablest and best of Jackson County's physicians in the legislative halls of Kansas City, Jefferson City and Washington.

MEDICINE AND THE PRESS

For years it has seemed that there should be a closer relation between organized medicine and the press and along strictly scientific and ethical lines. The American Medical Association has done much to advance this, and now submits weekly to the members of the associated press copy on popular medical and health subjects. From the news and medical subjects now published in several American dailies it is evident that the press considers medical research, prophylaxis and treatment of disease, as news.

In recent interviews with both the Kansas City dailies it has been learned that the local press will welcome a press committee from this Society and such has been named. There are frequent occasions, when counsel and advice, as well as sympathetic co-operation, between organized medicine and the press would do much in the interest of public health and welfare.

It is hoped that the personnel of such committee, Dr. Franklin E. Murphy, chairman, Doctors Ralph H. Major and George H. Hoxie, members, will aid in placing organized medicine in this county where it can be of the greatest aid to society.

MEDICAL EDUCATION

Some fifteen years ago there was made in Kansas City, Missouri, by Abraham Flexner, representing the Association of American Medical Colleges and the Russell Sage Foundation, a survey of the numerous medical schools existing here. The specific result was the closing of the 8 or 10 struggling schools, a salutary and really constructive act in medical education, though in many ways an immediate shock to Kansas City, Missouri, its student body and its teaching profession. On the other hand, it made possible the reorganization of the medical department of the University of Kansas, now located in Rosedale, gave it an enlarged faculty and has developed a foundation and attendance which has given to Kansas a grade A school for theoretical and clinical

medicine, and the research and experimental laboratories necessary to meet the future health and sanitary needs of this rich and growing state to our west.

But while admitting the direct and indirect benefit following the closure of the proprietary and unendowed medical schools in this city, it made possible, even without state medical board recognition, the development of any number of sectarian and irregular institutions, inviting candidates to secure granted, though not qualifying, degrees to practice medicine. And, unfortunately, with the lack of uniform medical laws in the various states of the Union, such graduates have been permitted to take examinations before other state boards, and have in many instances been granted licenses to practice.

The recent exposure by the St. Louis *Star* and the Kansas City *Journal-Post* of the lack of scientific training of students and the bartering of diplomas for a price of several St. Louis and Kansas City medical schools, demonstrate a remarkable and lamentable situation in connection with medical education in the west. It all indicates the need of a more positive position on the part of our state officials, the more rigid enforcement of our present laws, and a methodic and rigid inspection and control of all chartered and reputed educational institutions. Further, it demonstrates the duty of organized medicine in demanding the enforcing of present medical or public health legislation and the careful study into the future needs of its citizens in matters pertaining to public health and welfare.

This leads up to Kansas City, Missouri's, great need today in the question of medical education. This is a favored and strategically located metropolitan center, rapidly increasing in population; industrially and commercially the envy of many an American city; contiguous to populous and rich districts of agriculture and stock raising and possessing an unlimited supply of resources in minerals, coal, oil and gas. Our schools, churches, libraries, institutes of music and art and theatres of high rank, are attracting thousands annually. Our residence, park and boulevard systems lead among American cities. Our population is most typically American, representing the best blood and the most creative, nervous energy from every state in the Union.

To meet the physical and medical needs of our own citizenship and as well the large population of the Southwest who at times need and expect the greater technical facilities of a metropolitan center, Kansas City, Missouri, offers many medical advantages. Among these are several grade A private and church hospitals, our large and efficient General Hospital,

a group of fine dispensaries and a creditable profession who man these institutions and have proven their professional and executive ability.

However, with such hospital and clinical facilities and a regular profession of some 400 men to care for such abundant material there is one great lack in this metropolitan center of Western Missouri, namely, a regular recognized grade A medical school with faculty, laboratories and equipment to thoroughly study and make available for systematic and scientific instruction such clinical material. With the rapid changes in medical standards and requirements there are numerous students who annually await the opportunity to come to this particular location for advanced medical instruction.

With such facts before us there is both an opportunity and a duty on the part of this organized medical body, The Jackson County Medical Society, to take proper action looking forward to the establishment in Kansas City, Missouri, of such a teaching medical institution.

Two facts present themselves: We have a medical education committee in whose personnel are several University of Missouri alumni, and active leading members of the local profession. The future of the medical department of the University of Missouri as to its development or its permanent location, is not determined. Kansas City is a Missouri metropolitan center with most varied opportunities and possibilities. It has in its clinical and hospital equipment, save for laboratories, all the material foundation necessary. It has a medical organization and profession that would willingly welcome a foreign faculty, or yield of its membership those qualified to serve in any teaching capacity. Kansas City has a spirit and a history which would promise every assistance of its great wealth and its influential organizations to assist in the establishment of such a medical teaching institution. It is with a very sincere belief in the need and a profound faith in its practicability that such is offered for your earnest consideration.

By the proper methods of approach to those in state and local authority this matter should be presented through our authorized and instructed committee, the medical education committee, Dr. Elmer E. Twyman, chairman. As the regular recognized medical group of this county, we, The Jackson County Medical Society, should formally invite the University of Missouri to institute proceedings looking forward to the establishing in Kansas City, Missouri, the last two years of its medical school.

CONCLUSIONS

In the above there has been presented to you some of the problems and responsibilities that

we as a profession and as a social organization are confronted with. Their theoretical consideration is not their solution. But with the strong types of men in this organization and the various committees named, we surely have the material to approach and a good hope that 1924 may see another mile post in this wonderful course of life passed, and a good roadbed laid and smoothly surfaced for those who follow. My one request is that you support your president in those things which should be undertaken.

Rialto Building.

INAUGURAL ADDRESS*

ROLAND HILL, M.D.

ST. LOUIS

I wish to express to you my sincere appreciation of the very high honor that you have accorded to me. It is an honor of which anyone might well be proud and as it has come to me absolutely unsought and unexpected, I shall value it all the more highly. While you have elected me to this high office, you have also placed upon me heavy responsibilities and obligations that will require time and consideration, not only of myself but of all the new officers, and if we are to secure the best possible results we must have the kindest co-operation and earnest support of every member of our organization.

It has been my pleasure to watch the growth of the St. Louis Medical Society for the past thirty years. If we compare its condition today with that of thirty years ago we find a contrast startling in the extreme. In my early days the Society was very much smaller than it is now, the meetings were usually poorly attended and there was almost a complete absence of the highly scientific and instructive papers that are presented at this time. The contrast between the tone of the meetings at this time and of the past is even greater than the difference between the scientific speeches presented. In my early days where two members disagreed over a scientific problem the personal equation often came to the fore, at times to such an extent that the veneer of professional dignity was severely cracked and in one instance where there was a dispute over the presidency, a violent personal encounter resulted. Today, our medical problems are getting more and more complex. With the advent of the highly trained specialist, of the modern laboratory, we have become much more dependent on each other. A co-operative homogeneous spirit has devel-

*Read before the Annual Meeting of the St. Louis Medical Society, January 8, 1924. From Bulletin, St. Louis Medical Society.

oped among us that has led to great benefit of the profession. Today, I truly believe that there is not a larger body of medical men in the country that has a more highly scientific standard than our own.

During the last few months the medical profession and the people of the country at large have been simply astounded by revelations brought to light as the result of an investigation made by one of our daily papers regarding the sale of medical diplomas to untrained and uneducated men. The further the investigation proceeded the more astounding were the revelations. It seemed that the practice had gone on for years until the fake doctors were to be found throughout the whole country. The fact that these untrained men were being turned loose upon the country was not the only serious part of it. The investigation pointed to men who had been high in public service who had had responsible positions throughout the state of Missouri as aiding and abetting and profiting by this nefarious practice.

Everything pointed to Missouri as being the primary focus of this practice and to St. Louis as one of the special centers where these students were corralled, given a smattering of education and turned loose upon the public.

The Missouri State Board of Health has promptly and fearlessly attacked the problem and as the result every effort is being made to annul the charters of three medical schools that have been shown to be far below the modern standard.

While we heartily support the work of the State Board of Health, we feel that a shadow has been cast upon the medical profession of St. Louis and the St. Louis Medical Society should do everything possible to remove that cloud. If any of our members have been either directly or indirectly connected with this fraud, it is the duty of the Society to take definite action to ascertain the innocence or guilt of those to whom the least suspicion has attached itself.

If after a thorough, careful, and impartial examination, any member of the St. Louis Medical Society is found guilty of aiding or indulging or profiting by the sale of fraudulent medical licenses, I feel that his membership in this Society should at once be terminated. There should be no half way measures or compromises of any sort in dealing with a question so important and vital to the welfare of organized medicine.

The problem of the trained nurse is one of the very important ones for the consideration of the medical profession. There is a tendency on the part of the nurses to seek, through legislature, autocratic powers that are not at all times desirable for them to have. In the state

of Missouri a law was passed three years ago allowing them so much latitude that they soon created a great deal of antagonism among many of the hospitals and among the majority of doctors. This law was later repealed. We are facing the problem today as to whether we are going to have super nurses who direct poorly trained women to take care of the sick or whether we are to have a highly trained body of nurses enthusiastic in their work and consecrated to the relief of suffering humanity. Personally, I have the greatest admiration for the profession of nursing. To my mind it is the noblest avocation available to women. The lack of harmony between the medical profession and the nurses should be supplanted by a spirit of co-operation. Inasmuch that nursing is so indispensable to our work, it behooves us to take an interest in all things pertaining to the welfare of the trained nurse and to give aid and support to all worthy aims of the nursing profession. I believe that this can be best accomplished and the united support of the profession best secured by making the Nursing Board subordinate to, and a part of the State Board of Health. The State Board of Health supervises and controls all matters pertaining to health within the state, including the registration and examination of doctors for licenses to practice, and in view of the intimate association between the nurses and the doctors it would seem the part of wisdom that the power of the Board should be extended to embrace the work of the nurses. If this is done, I feel that the present friction would be avoided. There is one thing on which I feel very strongly and that is that we should never have the super-nurse, who has nothing to do with the handling of the patient at the bedside, for I believe the fundamental principle of a trained nurse should be the care of the patient who is unable to take care of himself.

The number of training schools should be increased. There are many qualified girls in the small communities who would enter a local hospital and would hesitate to go far away from home to the larger hospitals at the start. I recently visited a hospital of seventy beds in a town of thirteen hundred in Kansas where they had a training school of 43 nurses and a waiting list. All were required to have 2½ years of high school training. If a hospital of this type can draw so largely from a local community there is no reason why some of the smaller hospitals throughout Missouri should not do the same thing. Many of these hospitals are not thoroughly equipped to give a full nursing course and I think they should be compelled to affiliate with our larger municipal hospitals so that the nurses in training could be brought to our big institutions and thoroughly trained in

those branches that they can not adequately handle in the smaller hospitals at home.

Medical problems of a national character should receive our careful attention. The accomplishments of modern medicine are the foundation stones of some of the most important achievements of the human race. It is estimated that the work of medicine has lengthened human lives ten years and many colossal human enterprises have been made possible only through the brilliant work of the trained physician. One of the most striking examples of the super-power of the trained physician in aiding national projects was the completing of the Panama Canal. Here the French nation had spent millions upon millions of dollars and sacrificed thousands of lives in an endeavor to complete the water-way across the Isthmus of Panama. America, with all her strength under the leadership of the far seeing Roosevelt would have made another dismal failure except for the brilliant work of Surgeon General Gorgas, whose skill and knowledge of sanitation alone enabled the project to be consummated.

Another of medicine's most brilliant achievements was accomplished by the yellow fever commission which resulted in the elimination from the world of the ravages of this terrible plague. Four men in the services of the United States went to Havana, Cuba, and investigated without regard to personal danger the most serious cases of yellow fever that could be found. They slept in the same room with the yellow fever patients, under the same canopy and exposed themselves in every way to infection. Their disregard of personal danger, their enthusiasm and scientific investigation of the conditions led to the discovery that this condition was caused by a certain mosquito and that the disease was not communicable directly from one patient to another. This discovery has been one of the greatest boons to the world at large. It has saved thousands of lives and incalculable millions of dollars. In our Southern states it has added, not only untold increase of property values, but has also added a sense of security for life and happiness that has never been known before.

There was a time when the notice of a case of cholera in New York, or yellow fever in New Orleans, or of a plague in San Francisco caused a tremor of fear to run from one end of the country to the other. The older people remember when a cholera announcement in New York meant devastation through all the Atlantic states and when an invasion of yellow fever in New Orleans often times created such havoc that it was a super-task to take care of the remains of the dead. Owing to medicine, these days are over and I believe that the quarantine stations that guard our coast are today greater

safeguards to our homes than the magnificent ships of our navy that guard us in times of war.

Nothing illustrates more fully the lack of national appreciation of the epoch making researches of scientific men than the inadequate provisions made for the dependents of medical heroes after their death. The simple statement just received from the War Department tells what has been done for the families of Drs. Reid, Carroll and Lazear, whose work in Cuba was one of the bright pages in medical history and a most brilliant page in the welfare of the nation. The War Department states that Major Walter Reid, M.C., U.S.A., died November 23, 1902. His widow, Mrs. Emily L. Reid, was granted a monthly pension of \$125 by Act of Congress on March 3, 1902. Major James Carroll, Medical Corps, M. C., U. S. A., died in Washington, D. C., September 16, 1907, and his widow, Mrs. Jennie Carroll, was granted a pension of \$125 per month by Act of Congress May 23, 1908. Dr. Jesse Lazear, contract surgeon, died in Cuba in 1900 and his widow, Mrs. Mable H. Lazear, was granted a pension of \$125 by Act of Congress May 28, 1908. Mrs. Harriet C. Carroll, the mother of Major Carroll, was granted a pension of \$50 per month by Act of Congress approved May 12, 1917.

I have no doubt that Congress felt it was acting very liberally toward the dependents of medical men, but I feel that the time has come when Congress should be educated to the value of medical service of world wide benefit and I hope in the future such paltry sums will never again be granted to the dependents of medical heroes whose work has been so invaluable to the progress of the world.

Dr. F. G. Banting has received remarkable recognition in both houses and in a financial way from Canada and Madame Currie has recently been awarded 40,000 francs a year from the government of France.

The war in spite of the inhumanity and suffering it entailed led to many things that are beneficial. It did one great thing. It brought us to a realization of the great importance of social hygiene and did more in a few years to emphasize the disastrous effect of certain injurious diseases than had ever been accomplished. Personally, I could never understand why a case of measles should be so rigidly quarantined while one of the social diseases, so much more virulent, that would tend to weaken generations unborn, should go uncensored and unchecked. The war also directed attention to the large number of defectives that we have among us. Statistics show that we have in the social institutions of the country about one million people who are not only nonproducers but are dependents in every sense of the word. The importance of eugenics is

just beginning to be recognized and in future promises to be one of the most important subjects for the consideration, not only of the medical profession, but of the national government. I believe the time will soon come when we will stop standing complacently by and sanctioning alliances between defectives when we know, if we know anything, that we will have to build jails, insane asylums, and homes for feeble-minded, to take care of their progeny. I feel that a candidate for marriage, in other words, those who aspire to become the heads of American homes, should be subject to such examination as to justify the belief that they will never have children who are likely to become a public charge. The importance of these conditions is so great that it is hard to overestimate it. The health of our nation may be considered our greatest national asset, and if one thing more than another has been demonstrated it is the vital necessity of having the supervision of health in the hands of a man trained in medicine who stands high in the councils of the nation.

I believe that the efforts which have been made by the American Medical Association to secure the elevation of a doctor to the Cabinet are wise and just and should have the united support of the profession. A broad-minded medical man at the head of all matters pertaining to health in a position of such dignity and power, such as a cabinet officer would have, would soon prove his work to be as invaluable as that of any other man in the Cabinet.

Our Society has local problems of great importance that must be worked out. One is the fact that there are still several hundred doctors in St. Louis who are not members of our Society. I believe that every effort should be made to show these men the great importance to their becoming members of our organization. The educational importance to the local doctors of our regular meetings can not be overestimated and the fact that our magnificent library with our efficient librarian is always ready to give us aid in searching for information relating to important cases is almost beyond value. I feel that every one of our members should become a missionary of the Society in securing membership applications from worthy medical men in St. Louis, who are not already affiliated with the Society.

The most important of our problems at the present time, however, is the one relating to our new home. Our present quarters are inadequate both in regard to auditorium and library. There have been numbers of meetings where standing room was not available and with the increased medical activities and health work that will center around our organization this lack of adequate space is certain to be felt more

and more as time passes. Our library of thirty thousand volumes is the most complete medical library west of the Mississippi river. It is housed in a building that is not fire proof and might be wiped out by fire in a few hours. Libraries of this sort are priceless and money alone can not replace them. Furthermore, the great weight of the books is becoming a serious strain upon the building, originally constructed as a private residence. A magnificent start has been made towards securing new accommodations. A lot has been bought and paid for by 45 of our members. This lot, to my mind, is well selected and adequate for the purpose. Magnificent plans that are attractive in the extreme have been drawn by one of our leading and most reliable architects. I wish to see this building project put through and I believe with the united support and earnest co-operation of every member of the Society it can and will be put through. The more carefully I think of the project, the more earnestly I feel that it is our duty to see that it does not fail. The importance of immediate and effective steps to complete this project are of the greatest moment to our organization.

If there are obstacles that can be advantageously met by some minor changes in building construction that would not in any way impair the usefulness of our building for the purposes for which it is intended, I would favor making such modifications. While the palace of marble and cut glass would be highly ornamental and distinctive, if I found that this were not feasible, I would be willing to see changes in the exterior and also in the materials employed, providing only that under no consideration should the comfort and efficiency of the building be impaired in any particular.

A determined effort will soon be made to increase the building fund in the highest possible degree and I hope that all members of the Society will make it a matter of personal pride to contribute to their medical home as much as it is within their power to do so.

The fields of medical activities have greatly changed and enlarged in the last few decades. Formerly the principal object of the physician was to cure disease. Today, the most valuable work done by our profession is to prevent disease. The general public is alive to the value of preventive medicine. Our Society has been called upon to furnish speakers for public meetings and through our Speakers' Bureau men have at all times been found who have been willing to give talks on important medical topics when requested to do so. We all respond to the distress of the poor and many of our ablest men spend much of their time in administering to the needs of the worthy in our free institutions. If the laity could only

be made to realize that medicine is the only profession that works unceasingly to solve problems vital to the health of the people, and that with the solving of these problems of each disease the income of the doctor is decreased, I feel it should be a very easy matter to raise a general endowment fund that would aid us to increase our sphere of usefulness.

Many diseases such as diphtheria, typhoid, yellow fever, cholera, and typhus are now understood and can be prevented. There is, however, one of our most vital problems still unsolved. This is cancer. Its cause is being unceasingly sought and I believe the time is not far distant when its mysteries will yield to the searching investigation of scientific medicine.

Just how far we should go to spread medical knowledge among the laity is for your Council to decide. The dissemination of knowledge on health topics through the radio and the public press presents an alluring field with great possibilities that should be given careful consideration.

In conclusion, I wish to say that it is my hope to make this year a constructive one in our work and I can only do this if I have the kindest advice and co-operation of every member of our Society.

Lister Building.

REMARKS OF THE RETIRING PRESIDENT*

C. B. FRANCISCO, M.D.

KANSAS CITY, MO.

I wish first to thank the members of the Society for the honor they have conferred upon me and to say that I anticipate no position in the future that will be more appreciated by me than the distinction that you have given me. However, I am quite willing to confess that I am sure it has been of much more profit to me than it has been to the Society to have me as its president, as it has made me realize more than I otherwise could have, what the Society means to the profession and what its problems are and what is necessary to meet some of the responsibilities of the future.

I am supposed to say something to you of the past year's work, but I propose to let the records show what has been done, and to tell you briefly some of the impressions that have been made upon me and something of the work that the Society should take up in the future. The past year's work I will discuss with the remark that in my opinion the Society has made progress along the proper lines, but not as much as should have been made and not as much as I had hoped for.

*Address before the Society, January 8, 1924. From Bulletin, Jackson County Medical Society.

I wonder if any of us realize what our place in the community is becoming and just what it is to be. We all must admit that more and more is being expected of organized medicine and that greater responsibilities are to come. I had this very forcibly thrust upon me a few weeks ago when I was assigned to address the Council of Ministers on the needs of our City Hospital. After I had spoken to them of our inadequate facilities and of actual conditions at our City Hospital, they immediately said, "Why has not the Society told us before of these conditions so that something might have been done long ago?" plainly implying that in their opinion it is the duty of organized medicine to lead the way in affairs of public health in the community. I feel sure that this is the state of mind of all other organizations that are interested in civic and business affairs. This brings us to the question of what are we going to do about it and how can we accept this responsibility?

I have a few suggestions to make which to my mind are vital if we are to be worthy of the trust that is being thrust upon us. We must have the members of the Society understand what the Society means to them and what the Society means to the community. We must have more of the members interested in the problems that are presented to the Society and to this end would recommend an occasional entire evening being given over for an executive session, so that these problems could be presented and discussed by the members. The Council would thereby be enabled to voice better the opinion of the majority and the discussion and knowledge gained by the member would increase his admiration and enthusiasm for the activities of the society.

In my opinion there are some definite changes relative to the responsibility of the Society for its members that must be made and can only be made by the organization acting as a whole. It may be somewhat unpolitic to state what should be considered, but certainly the attitude of every member toward his patient relative to the character of his work and the fees charged, is of the greatest concern to the members of the Society as a whole. In seeking the answer to what should be done to gain and maintain the standing that organized medicine deserves and which rightly belongs to it, we should first look about our own house and meet the problem squarely of putting it in order. We can then more advantageously attack the problems that are of origin outside our Society.

I wish to take this opportunity to thank the committees for the excellent work done and to particularly mention the program, executive and entertainment committees and to say that

I am indeed grateful to them for their services. I wish to commend the board of censors for their earnest and faithful work and to praise the Council for their untiring efforts in dealing with the affairs of the Society and to say to them that it was indeed a pleasure to act as their chairman.

To the members I offer my sincere thanks and unending gratitude for their loyal support.

ADDRESS OF RETIRING PRESIDENT*

WILLIAM H. VOGT, M.D.

ST. LOUIS

Tonight, my valedictory as retiring president of the St. Louis Medical Society brings many regrets. I shall miss the coordinate activities of this body, the harmonious co-operation of my fellow officials, and in general the pleasant professional association with the members of this Society all working harmoniously for the perpetuation and projection of the ideals for which this organization was founded.

This regret, however, is materially tempered by the assurance that this happy condition will continue and be more dynamically directed by the successor upon whom this Society has deemed it wise to confer the highest honor within its giving.

We at this time desire to make it clear that whatever has been accomplished, and much has been accomplished, is due, not to our feeble efforts, but to the cheerful whole-hearted and energetic assistance and aid of our secretary, vice presidents, treasurer, councilors, members of various committees, delegates and directors of the St. Louis Clinics. To Miss A. M. Patton, assistant to the secretary, the Misses Ada and Lily Hanvey and Miss Viola Engelbach, the Society is especially indebted; without their efficient and willing help, the office of president would have been changed from one of pleasure to that of a hardship.

Of course, the outstanding project of our incumbency as well as of the preceding regimens, is the building program. In my inaugural address, we stated that this dream, the most pretentious and yet the most worthy dream that the St. Louis Medical Society had ever dreamed, still awaits the complete realization, and tonight one year of swiftly moving time has passed and a complete realization still awaits.

The co-operation which we requested, the reflection of friendship and good will and financial help, the giving out of the fullness of the heart, have been worthy of the caliber of our

membership, yet we must not forget that our dream still awaits the complete realization and if that structure and monument to our ideals is to rear itself to St. Louis skies and stand within the memory of men to the glory of our profession, we must, in the full power of our combined activities, give to our successor that unanimous, congruous and harmonious support, that driving energy, that will transform our dream with mystic artistry into an architectural fact.

To the advancement of our ideals there has been given a pathetic though paradoxically glorious touch. Some of our fellows, realizing and appreciating that the most certain thing in life is death, that the definition of true greatness is to leave this world better for having lived and that it is good that one lives at least in the memory of men, have seen fit to perpetuate their noble activity in the form of an endowment. Four members have definitely made such provisions, while three others have intimated to the Chairman of the Endowments Committee, their desire to increase the usefulness of the St. Louis Medical Society by provisions in their wills. Each has virtually said "Complete the building project and I will do the rest."

These facts clearly argue for speedy completion and it is certain that following this full achievement numerous similar endowments will be forthcoming, in all probability to an extent that will eventually cover the actual running expenses of this organization.

A second consideration, one even of broader interest, because it concerns every member of the organized profession in the State of Missouri is legislation. The past legislative year has seen one great stride in the accomplishment of our ambitions, namely, the return of the word "reputable" as an essential qualification of an acceptable school of medicine.

It has been realized that it has been quite impossible for medical men busily engrossed with the affairs peculiar to their calling to give proper attention to statutes in whose entangling clauses lie hostile possibilities, and much of the good accomplished is attributable to the efforts of our able Committee on Health and Public Instruction and the selection of one qualified in law, familiar with legislative procedure and with an eye ever alert to bills affecting our profession.

Though 1924 will not be a legislative year we must in times of peace prepare for war. There will be no lesser sprinkling of osteopaths, chiropractors, naprapaths, naturopaths, and of the other seventy-two jarring sects to whom the great Omar refers, than have been present at the last legislation and it behooves us therefore that the same alertness which has been

*Read before the Annual Meeting of the St. Louis Medical Society, January 8, 1924. From Bulletin, St. Louis Medical Society.

exercised in the past be continued and the future must see an increased interest, a greater participation on the part of the medical profession in the matter of state legislation and medical education if the high and esteemed standards of our glorious calling are to be maintained in the eyes of the people of this state and in the whole world, and in the opinion of the law.

Though the past year has not seen a complete fulfillment of our inaugural desires and wishes, yet it has been a privilege of effort and in transferring to my successor this office with its pleasures, its honors and its responsibilities, I bespeak for him the same whole-hearted support, the same driving energy that has made our task a pleasant one and has led to the accomplishment of what little we may have achieved.

Metropolitan Building.

A CASE OF ARTERIOSCLEROSIS AND VASQUES'S DISEASE*

(Erythemia. Polycythemia Vera)

EDWIN J. SCHISLER, M.D.

ST. LOUIS

Case No. 1740. A white male, 63 years of age, five feet seven inches in height, weight 127 lbs., office worker. Was first seen December 3, 1921. Family history negative. Past illness: complained of shortness of breath and palpitation for the past 10 years, also chronic indigestion and nausea and soreness of the mouth and tongue, with occasional swelling of ankles and general malaise. Nervousness, with congestion of the face, neck and hands, gradually developed in early adult life. Examination shows T. P. R. normal. Eyes: sclera injected, pupils normal. Tongue: strawberry colored, and mucous membrane of mouth and throat very red. Lungs normal. O. C. D. 10 cm. in the 5th I. C. S., with haemic murmur over the entire precordia. Blood pressure 140/80. A to and fro murmur over aortic area. Liver enlarged, extending 4 cm. below the costal margin. Spleen just palpable. Rectal examination and reflexes were found normal. Urine showed a slight trace of albumin and an occasional hyaline cast. Blood showed: clotting time one minute. R. B. C. 12,500,000. W. B. C. 9,000. Haemoglobin 120%. Differential Polymorphs, 65%; Transitionals, 20%. Large Lymphs 5%. Small Lymphs, 12%. Diagnosis: 1. Arteriosclerosis. 2. Vaque's Disease. (Erythemia. Polycythemia Vera). Considering the possible etiological

factor of adrenal gland deficiency, as the cause is as yet unknown, the patient was given Adrenalin 10 mms. three times a day for three months, after which the blood index was shown to be reduced: R. B. C. 8,000,000. W. B. C. 25,000. Haemoglobin 80%. Differential Polymorphs 60%. Transitionals 5%. Large Lymphs, 14%. Small Lymphs 20%. A general improvement in his condition was noted.

Recently, after an interval of 20 months without medication and following a severe hemorrhage from a tooth extraction on October 20, 1923, when the patient was given 10 c.c. of normal horse serum, subcutaneously with Calcium Lactate, grs. 15, four times a day the blood showed: R. B. C. 9,200,000, W. B. C. 27,000. Haemoglobin 110%. Differential Polymorphs 75%. Large Lymphs 10%. Small Lymphs 5%. Transitionals 3%.

The treatment with adrenalin chloride suggested itself from an adrenal deficiency, as the etiological factor of the disease is as yet unknown. It has been suggested by different clinicians that treatment by x-ray of the long bones, similar to that applied to lymphatic leukemia be tried.

As you see, the patient shows no discomfort and is generally improved.

DISCUSSION

DR. GEORGE IVES: I can't say very much in addition to what has been said. I did get sufficient serum to make a Wassermann, but one characteristic thing about the blood is the large volume of corpuscles, so great there is very little serum. Out of ten cc. I got one-half cc. serum.

I think the best conception of this disease is that it is a neoplasm. The leucocyte count reported is characteristic of the disease. Normal variations in red count are common, and in the later stages of the disease there may be an anemia. Cases of this kind may present themselves late in the history. I think it would be very difficult to diagnose such cases. So if a case of this kind should present itself late in the disease the only way to make a diagnosis is by the history. The duration of life of these cases may be ten years or more.

HOMOPLASTIC AND HETEROPLASTIC TUMOR GRAFTS IN THE BRAIN.—James B. Murphy and Ernest Sturm, New York (*Journal A. M. A.*, December 23, 1922), assert that heteroplastic tumor tissue will grow readily when inoculated into the cerebrum, provided the graft does not come in contact with the ventricle. The tumors grow rapidly in the brain substance, with no cellular reaction taking place about them. However, when such grafts come in contact with the ventricle, a cellular reaction results, similar to that observed about a subcutaneous heteroplastic graft. A bit of the animal's own spleen inoculated into the brain, along with the heteroplastic tumor tissue, prevents the growth of the foreign cells. This action is absent when the spleen is derived from another animal, even of the same species. Mice highly resistant to subcutaneous transplants of mouse tumor give no evidence of this resistance when the tumor is inoculated into the brain.

*Presented before the St. Louis Medical Society, October 30, 1923. From Bulletin, St. Louis Medical Society.

THE JOURNAL

OF THE

Missouri State Medical Association

MARCH, 1924.

EDITORIALS

THE SPRINGFIELD MEETING

The sixty-seventh annual session of the Association, which meets at Springfield, May 6, 7 and 8, will witness a departure from the custom that we have followed for so many years and instead of limiting the speakers to members of our Association we will have the pleasure of entertaining two eminent members of the profession from other parts of the country. The program committee with the approval of the Executive Committee has invited Dr. John A. Ferrell, of New York City, doctor of public health, and director for the United States of the International Health Board of Rockefeller Foundation, and Dr. William Allen Pusey, of Chicago, president-elect of the American Medical Association. These guests will deliver addresses at the meeting on Wednesday, May 7.

The program committee has also arranged for the House of Delegates to meet on Tuesday, May 6, and exclude all scientific work for that day. Scientific papers will be read and discussed on Wednesday and Thursday, May 7 and 8. The Health Officers of Missouri will hold their annual session on Tuesday, May 6.

All meetings will be held in the beautiful Shrine Mosque, recently completed. Exhibits will also be located in a corridor of the Mosque just outside of the auditorium where the general sessions will be held.

The program committee is making up the program for the scientific work and will limit the number of papers so that the members may have time to mingle and get acquainted.

The Springfield members are planning to make our visit an enjoyable one. The golf tournament will be repeated this year as it was one of the most attractive features at the Joplin meeting last year. There is a splendid golf course at the country club. Springfield is easily accessible to a great majority of the members and we hope that the attendance will be one of the best in our history.

ST. LOUIS UNIVERSITY ACQUIRES HOSPITAL GROUP

A notable advance toward the extension of the teaching facilities in medicine at St. Louis was consummated in February when the St. Louis University was given control of the St. Mary's Hospital group, comprising the new

St. Mary's Hospital now approaching completion, the St. Mary's Infirmary and Mount St. Rose Sanitarium. These three hospitals will become a university hospital assuming the character of a department of the university. By the terms of the agreement the staffs for the three hospitals will be appointed from members of the faculty of the Medical School of St. Louis University, thus giving the control of the medical service to the staff. Hitherto, the appointment of the hospital staffs of the three institutions was under the control of the Sisters of St. Mary, who own the group, but the Sisters will not relinquish any proprietary title in the hospitals. By this arrangement the St. Louis University will be enabled to enlarge the teaching facilities of the medical school, establish research laboratories, organize clinical departments, develop the training school for nurses and increase the number of full time professors. The university has announced that the department of internal medicine will be placed upon a full time basis immediately.

This arrangement lifts the medical school of the St. Louis University into the class occupied by the Washington University with its Barnes Hospital, the Johns Hopkins University with the Johns Hopkins Hospital, the Columbia University with the Presbyterian Hospital, and Harvard University with the Peter Bent Brigham Hospital. The St. Louis University, however, departs from the method adopted by the other institutions which permits only members of the staff of the respective university hospitals to treat the patients—the so-called "closed" hospital. St. Louis University Medical School has decided to set aside a certain number of beds not exceeding one-third for the use of patients sent to the hospital by acceptable non-staff physicians who will be allowed to treat their patients in the hospitals. By this modification of the rules governing the admission of patients to the hospitals the medical school believes that a larger number of physicians and patients can take advantage of the hospital facilities.

This extension of the medical department of the St. Louis University is, we anticipate, only a beginning of an expansion that must soon compel the erection of new buildings and further enlargement of the facilities for teaching an increasing number of medical students. The enviable position St. Louis has attained in the medical field during the last few years will be more firmly fixed through this new growth of the oldest university west of the Mississippi river.

GOOD HEALTH CONDITIONS THE BEST ADVERTISEMENT

"A city's health showing is far more important as an advertising factor than its bank

clearings, its annual volume of trade or its industrial advantages," says the Kansas City Star editorially in commenting on health conditions in Kansas City.

A few years ago no metropolitan newspaper would have had the boldness to place the health conditions of the city as an advertisement superior to the bank clearings and the volume of business transacted. In other words, the newspapers were subservient to the business enterprises because of the large income derived from the advertising pages. With the general recognition that the protection of the health of the people in a community is paramount to the volume of business transacted, newspapers have ceased to fear the user of large spaces in the advertising pages of the paper. We recall the famous "red clause" in patent medicine contracts which prohibited the paper from printing anything in its news columns that might affect the "pulling" power of the patent medicine. This "red clause" no longer handicaps as a purveyor of news for all good newspapers decline to submit to its restrictions. The editorial was prompted by a report from Washington during the meeting of the American Public Health Association, which declared that,

"The public health services at Kansas City are elementary and fragmentary, but are all that can be provided with the available appropriation. At least three times the present appropriation for health service is needed to provide adequate control of tuberculosis and social diseases; the necessary protection of maternity and infancy; public health nursing, aiming at educational and preventive purposes; the control of milk supply, and expansion in the field of public health education."

Upon this report the *Star* based its comment, which follows:

"Here is a statement of Kansas City conditions by national authorities. The health conditions of a city these days soon become a matter of country-wide interest; they are studied by medical bodies and made use of by civic and advertising agencies. A city's health showing is far more important as an advertising factor than its bank clearings, its annual volume of trade or its industrial advantages.

"Is Kansas City satisfied to be cited as having a death rate among the highest of the large cities of the United States?

"Is Kansas City satisfied with an annual per capita expenditure for public health of only 36 cents, while other cities expend four and five times that amount?

"Is Kansas City satisfied with one of the highest typhoid death rates among the large cities of the country?

"Is this city satisfied with inadequate milk inspection, with an excessive infant mortality rate, with insufficient control of tuberculosis, with a negro death rate nearly double that of the white race, itself high, with a lack of hospital and public health education facilities?

"If Kansas City is satisfied with these things, then it may expect to be held up to the unfavorable attention of other cities in matters of health. If it is dissatisfied, it will set about to change the conditions that have given rise to this undesirable publicity."

The newspapers of Kansas City can arouse the people to correct this discreditable condition and if they undertake the effort they will have the whole-hearted co-operation of the Jackson County Medical Society. Kansas City's eminence in the commercial world is a source of pride to all Missourians. Let her now show the world that she will guard the health of her people as jealously as she fosters their material interests.

HEALTH LEGISLATION IN THE 68TH CONGRESS

The present session of Congress has before it a number of bills affecting the public health, most of them holding interest for the medical profession. The American Medical Association, assisted by the constituent state organizations, is endeavoring to induce Congress to reduce the tax upon physicians in three directions, namely:

1. That under the Harrison Narcotic Act, as amended by the Revenue Act of 1918, an excessive and now unnecessary war tax is imposed on the profession.

2. That the physician is compelled to pay an income tax on money paid out by him for certain expenses of his profession, and is thus taxed on an amount in excess of his net income.

3. That the physician is taxed on his earned income at the same rate that he and taxpayers generally are taxed on income from investments, etc.

The revision of the revenue laws, now under consideration by Congress, opens the way to relief. It affords, too, through a suggestion made by the Secretary of the Treasury, the opportunity for a reduction in the tax rate on the physician's earned income as distinguished from his income from other sources.

But to obtain the benefits now within reach, the medical profession must seize the opportunity and make its wishes known to Congress. To facilitate such action, a memorandum containing arguments in support of the position taken by the medical profession and a statement of procedure to be followed appears on another page in this issue.* County societies and individual physicians are requested to write the senators and representatives in Congress asking for relief from these unnecessary burdens.

The Monthly Digest of the National Health Council tells us that nearly 7,000 bills and resolutions have been introduced in both houses up to January 10. Of these bills, about 100 were on public health and allied subjects and many of these were bills similar to those which were introduced in the last session of Congress but

*See page 89.

which had not been acted upon at that time. Among the more important measures of general interest are eighteen bills or resolutions proposing amendments to the Constitution relative to the abolition of child labor and several bills and resolutions to set up uniform marriage and divorce laws, also by amendment to the Constitution.

Two paragraphs in the message of President Coolidge to Congress relate to health subjects; in one of them the president signifies his intention to indorse the program of the late President Harding, reorganizing the various departments and bureaus of the government. On this subject the president said: "A special joint committee has been appointed to work out a plan for a reorganization of the different departments and bureaus of the government more scientific and economical than the present system. With the exception of the consolidation of the War and Navy Departments and some minor details, the plan has the general sanction of the president and the cabinet. It is important that reorganization be enacted into law at the present session." The reorganization plan includes a Department of Education and Welfare which would also comprise government health activities.

President Coolidge also urges upon Congress the necessity for the education of negro physicians. On this subject he says: "About a half million dollars is recommended for medical courses at Howard University to help contribute to the education of 500 colored doctors needed each year."

Of the bills affecting the medical and allied professions we mention the following:

FRAUDULENT MEDICAL DIPLOMAS.

Introduced by Senator Copeland, December 12, 1923.

S. R. 61. Adopted in the Senate, December 19, 1923. This resolution is based upon the disclosures of fraud in connection with the sale of medical degrees and diplomas in Connecticut and elsewhere; it provides for a general investigation of these alleged frauds; as to whether or not there are any doctors in the U. S. Public Health Service who are graduates of such low-standard institutions; and if the laws as to registration are being observed by practitioners of medicine in the District of Columbia.

TO EXTEND THE FRANKING PRIVILEGE TO LITERATURE PUBLISHED BY STATE BOARDS OF HEALTH.

H. R. 463. This bill would make it lawful to transmit through the mail, free of postage, any printed matter, circulars, or literature relating exclusively to public health when issued under the authority of any Board of Health of any State or Territory; the letter or pack-

age to bear the words "public health business" and the name of the state and Board of Health transmitting it.

FREE DISTRIBUTION OF ANTIRABIC VIRUS

H. R. 65. The shipment between the states appropriation of \$25,000 for the purchase and distribution, without charge of antirabic virus to be used in the treatment of rabies by the U. S. Public Health Service. A similar bill by Congressman Raker is H. R. 116.

TO REGULATE INTERSTATE TRAFFIC IN SUTURES AND SURGICAL LIGATURE MATERIAL.

H. R. 65. The shipment between the states of any suture or ligature material for human surgical use must bear a label showing that such material has been sterilized, under the provisions of this measure; it provides that any officer of the Treasury Department detailed for that purpose may enter and inspect any establishment where sutures or ligature material for human surgical use is prepared or packed; it establishes a Board consisting of the surgeons general of the Navy, Army and Public Health Service to establish regulations on this general subject.

LABELLING OF BOTTLES OR RECEPTACLES CONTAINING POISON AND SHIPPED IN INTERSTATE COMMERCE

H. R. 738. This bill makes it unlawful for any manufacturer or dealer to ship between the states any poisons or chemicals destructive of human life, unless the receptacle or container has a label stating that it is poison, together with two antidotes to such poison.

NEWS NOTES

ANNOUNCEMENT has been received of the marriage of Dr. Percy J. Farmer, of St. Louis, and Miss Viola Scruggs. The wedding took place February 4 and the couple will be at home at 904 North Euclid Ave., St. Louis.

DR. J. W. BURTON, superintendent of State Sanatorium at Mount Vernon, has returned to his duties after an illness of several weeks during which he was confined in a hospital in St. Louis. He has completely recovered.

SCHOOLS giving correspondence courses in medicine would be prohibited from sending diplomas or certificates of graduation through the mails under a bill introduced in Congress by Representative Kindred, of New York.

THE little town of Farrar, Perry County, Missouri, has no physician within seven miles. Request has been made to inform our members

who may be interested in a country location. Further information can be obtained from Mr. W. A. Eggers, Farrar, Mo.

DR. EVARTS A. GRAHAM, professor of surgery, Washington University School of Medicine, delivered the fifth Harvey Society Lecture at the New York Academy of Medicine, on Saturday evening, February 9. His subject was "Alterations of Intrapleural Pressure and Their Significance."

DR. CHARLES B. DEGROAT, St. Louis, was held for homicide by the Coroner, February 24, after an inquest into the death of a woman upon whom an illegal operation had been performed. The husband of the woman testified that his wife told him deGroat had performed the operation January 28.

HERMAN E. PEARSE, JR., son of Dr. Herman E. Pearse, of Kansas City, was fourth highest among 171 candidates for certificate of the National Board of Medical Examiners who took the complete examination in Part I. Mr. Pearse's total credits were 398.8 out of a possible 425. He is a student in the Johns Hopkins University Medical School.

FROM *Science* we learn that the Carnegie Hero Fund trustees have awarded the honorary certificate and allowance of \$375 a year to Reginald Blacknall, roentgenographer at the London Hospital, England, for twenty years, who as the result of roentgen-ray work contracted carcinoma necessitating the amputation of both hands.

THE St. Louis session of the Congress on Internal Medicine, February 18-23, was a very successful meeting. About eight hundred registered. Probably more than one thousand persons attended the Congress. Numerous clinics were held in the various hospitals on the morning of each day of the session, the afternoons being devoted to the reading of papers.

A PHYSICIAN is needed at Browning, a town of about eight hundred, in Linn County, Missouri, on the Chicago, Burlington and Quincy Railroad. Until recently two physicians were located at Browning but one died and the other has gone to Florida. Any member interested in this location may obtain full particulars from Rev. L. B. Hargrave, Browning, Missouri.

UNDER the will of the late Mrs. Nannie M. Wright, of St. Louis, the St. Louis Children's Hospital is given \$7,000 to furnish a ward which, in memory of the daughter of the testa-

trix, is to be called the "Ann Wright Hazeltine Ward." The St. Luke's Hospital under the will is recipient of \$1,000 as is also the St. Louis Home of the Friendless and the Little Sisters of the Poor.

ACCORDING to the *Kansas City Post* the continued requests for protection from graduates of the so-called diploma mill medical colleges of Missouri has resulted in the collection of a slush fund to fight the prosecution of the "diploma mill doctors." Since every purchaser of a spurious diploma as well as the leaders who sold them are liable under this suit, it is said that the entire fraternity has contributed to this fund, which is already in the five figure class.

THE sixth annual meeting of the Western Electro Therapeutic Association will be held in the Little Theatre, Kansas City, Mo., Thursday and Friday, April 17 and 18, under the presidency of Dr. Harry H. Bowing, of Rochester, Minn. A cordial invitation is extended to the medical profession of nearby states. On Tuesday evening, April 15, there will be a joint meeting of the association with the Jackson County Medical Society, papers being presented by Drs. Clark and Bowing.

THE town of Lincoln, Benton County, Missouri, on a branch of the Missouri Pacific railroad running from Sedalia to Warsaw, will need a physician when Dr. E. L. Rhodes leaves the community. Dr. Rhodes being in poor health and well along in years desires to retire from practice. There is one other physician in the town. The population is about 600. Dr. Rhodes is willing to remain with his successor for a period and introduce him to the people. Full particulars may be obtained by addressing him at Lincoln, Missouri.

HEALTH Commissioner Max Starkloff, of St. Louis, has refused to issue a permit to the St. Louis College of Physicians and Surgeons to operate a dispensary in connection with the college, according to a statement published in the newspapers at St. Louis. The refusal was based upon a newspaper report from Hartford, Connecticut, stating that the licenses of graduates from the St. Louis College of Physicians and Surgeons practicing in Connecticut would be revoked and declared that information had been placed before the Hartford grand jury which necessitated that action.

PLANS for obtaining the necessary funds to complete the new Jewish Hospital at St. Louis were put into action last month when a committee was formed for the purpose of making a concerted effort to raise \$750,000, the amount

needed to complete the \$2,000,000 project. The hospital owns a plot of ground on Kings-highway and Forest Park Boulevard where the new building will be erected and provide for a bed capacity of 250. Of this number 125 will be ward beds either free or part pay; 44 will be in semi-private rooms designed for persons of moderate means, the remaining 81 beds in private rooms.

EXAMINATIONS of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following places on April 7, 1924: Washington, D. C., Chicago, San Francisco, Cal., New Orleans, La. Candidates must not be less than twenty-three nor more than thirty-two years of age; they must have been graduated from some reputable medical college, and have had one year's hospital experience or two years' professional practice. For further information or permission to take this examination address the Surgeon General, U. S. Public Health Service, Washington, D. C.

THE Shriners' Hospital for crippled children at St. Louis will be opened and ready for operation about March 1. It is one of seven similar hospitals that the Shriners have constructed, the others being located at Shreveport, La.; San Francisco, Cal.; Portland, Oregon; Minneapolis and St. Paul, Minn.; Chicago and Philadelphia. The hospital at St. Louis was built at an expenditure of \$650,000. Free treatment and care of crippled children regardless of race or religion will be given at all the hospitals. Dr. Leroy C. Abbott will be chief surgeon at the St. Louis hospital and Dr. Fredrick A. Jostes will be resident surgeon.

THE United States Civil Service will hold examinations until June 30 for graduate nurse in the Indian Service, the Veterans' Bureau and the Public Health Service; for medical officers, junior grade, Indian Service; and Coast and Geodetic Service; medical officers, Grade A, for Panama Canal Service; medical officers, Grades A and B, for Public Health Service; reconstruction aide (occupational therapy); reconstruction pupil aide (occupational therapy), for service in the Veterans' Bureau. Applications will be received until June 30. Those interested may obtain full information by writing to the United States Civil Service Commission, Washington, D. C.

THE United States Civil Service Commission announces an open competitive examination for examination for medical internes (psychiat-

ric). Applications will be rated as received until June 30. The examination is to fill vacancies in St. Elizabeth's Hospital, Washington, D. C., at an entrance salary of \$1,200 a year and maintenance. Appointees may also be allowed the increase of \$20 a month granted by Congress. Applicants must either have been graduated from a recognized medical college, or be senior students in such an institution and furnish proof of actual graduation within eight months from the date of making oath to the application. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or custom-house in any city.

ADAMS County (Illinois) Medical Society, with headquarters at Quincy, has begun the publication of a monthly bulletin. The first number is a very excellent production containing twelve pages, seven of reading matter and five of advertisements. We find in it an address by Dr. William Englebach, of St. Louis, on "Osseous Development (Roentgenologically) and the Results of Treatment of Ductless Gland Disorders," read before the Adams County Medical Society at Quincy, Illinois, January 16, 1924.

The Adams County Medical Society is seventy-four years old and while bulletins have been published from time to time this effort is the most pretentious one that has been put forth. It is a very interesting number, containing besides the paper by Dr. Englebach a statement of the purpose of the bulletin, minutes of meetings and a column or two of news items.

DIPLOMAS from the Kansas City College of Medicine and Surgery, The National University of Arts and Sciences, Medical Department, St. Louis, and the St. Louis College of Physicians and Surgeons, will no longer be recognized by the State Board of Medical Examiners of California, according to recent news dispatches. The board recommended that a law be passed prohibiting the use of the prefix "Dr." by those licensed to treat the sick and compel them to affix to their names letters to indicate the branch of the healing art which they practice, such as M.D., D.O., D.C. Another recommendation of the board urged that the corporation laws of the state be so amended as to provide strict supervision of all medical schools and institutions issuing diplomas to persons desiring to treat the sick. California issues four forms of licenses: (a) Physicians and Surgeons; (b) Drugless Practitioners; (c) Chiropody; (d) Midwifery.

THE following have been accepted by the Council on Pharmacy and Chemistry:

Abbott Laboratories—Potassium Bismuth Tartrate, D. R. L.; Ampules Potassium Bismuth Tartrate with Butyn, D. R. L., 0.1 gm.; Ampules Potassium Bismuth Tartrate with Butyn, D. R. L., 0.2 gm.

Britt, Loeffler and Weil—Loefflund's Malt Soup Stock (Dr. Keller's Formula).

Hynson, Westcott and Dunning—Flumerin, H. W. and D.

Lederle Antitoxin Laboratories—Corpus Luteum, Lederle; Corpus Luteum Extract, Lederle; Ovarian Residue, Lederle; 1 per cent Silver Nitrate Solution, Lederle; Whole Ovary, Lederle.

Parke, Davis and Co.—Ergot Aseptic, Ampules Ergot Aseptic 1 c.c.; Scarlet Red Sulphonate, P. D. and Co.; Scarlet Red Emulsion, 4 per cent, P. D. and Co.; Scarlet Red Ointment, 5 per cent, P. D. and Co.; Scarlet Red Ointment, 10 per cent, P. D. and Co.

PLANS for the erection of a monument at the entrance to Havana harbor and possibly another one at Panama in memory of Dr. Carlos J. Finlay, a former physician at Havana, are being made by a committee of Havana physicians. Dr. Finlay was the first physician to announce the theory that yellow fever was transmitted by the mosquito. He made some experiments to prove his theory but from lack of proper control and necessary facilities failed to do so. Later Dr. Gorgas and other members of the United States Military Commission occupying Cuba succeeded in establishing with scientific accuracy the fact that the disease was transmitted by the mosquito.

Dr. Finlay, who was born in 1833 at Camaguey, capital of the Cuban province of that name, was educated in Europe and in 1855 was graduated from Jefferson Medical College in Philadelphia. Medical journals on file in Dr. Lopez del Valle's office credit Dr. Finlay with having first propounded the mosquito theory before an international sanitary conference in Washington, in 1881. He called the mosquito the "Cutex," but later it became known as the "Stegomyia Fasciata." He died in Havana in 1915.

THE United States Public Health Service announces that, in response to an extensive demand for summer school work in public health, it has arranged with Columbia University, the University of California, the University of Michigan and the University of Iowa to conduct public health summer schools this year.

The faculties of these various summer schools will include many such leading specialists of the United States as Michael M. Davis (dispensary management), Robert H. Gault

(criminal psychiatry), Emery Hayhurst (industrial hygiene), William J. Mayo (non-communicable diseases), E. V. McCollum and H. C. Sherman (nutrition), William H. Park (laboratory methods), Earl B. Phelps and George C. Whipple (public health engineering), M. J. Rosenau and Victor C. Vaughan (epidemiology), Thomas W. Salmon (psychotherapy), John H. Stokes (syphilis), Philip Van Ingen (child hygiene), C. E. A. Winslow (public health administration), and Francis Carter Wood (cancer).

The Public Health Service has already received communications from several thousand physicians and sanitarians who hope to attend these summer schools. The widespread interest manifested thus early indicates that a large number will take advantage of this opportunity.

THE Medical Society of New Jersey has caused to be introduced in the legislature now in session, a marriage certificate bill requiring every male person seeking a marriage license to obtain a certificate from a physician that he is free from venereal disease in a communicable form; a bill to amend the present venereal control law to more effectually control persons who have a venereal disease; a sterilization bill permitting sterilization of the feeble-minded, the chronically insane and habitual criminals. The Society favors the introduction of a bill prohibiting any school in New Jersey from issuing a diploma to practice healing to any person who has not attained the educational standard required by the present law. The present law in New Jersey requires two years of college work preliminary to the medical course, four years in medicine and one year as a hospital intern. The society will endeavor to repeal the chiropractic law passed at the last session of the legislature. The Society is opposed to the passage of any bill providing for annual registration of physicians with a fee. The Society is endeavoring to have all the newspapers in New Jersey adopt the policy of the Passaic Daily News in regard to malpractice suits against physicians. The News will not publish any comment on such suits until their actual trial in the courts. It is this policy that the Medical Society of New Jersey is asking all newspapers in that state to adopt on the theory that the plaintiffs in the vast majority of such suits have not even a remote chance of obtaining a verdict.

It is planned to open the new medical school of the University of Rochester in September, 1925, and the Strong Memorial Hospital, with its 240 beds, will open a few weeks in advance, and the nurses' home four months earlier, in

order that its training school may complete the training of an adequate staff of undergraduate nurses before the hospital first opens its doors to the public.

Considering 1925 as the year for the completion of the building program of the school, it is estimated that there will be available, from accumulated interest and the Strong Memorial gift, approximately \$3,000,000 for building expenses, without encroaching upon the \$9,000,000 capital originally donated. This fund will be left intact, therefore, as an endowment to provide for the running expenses of both school and hospital. As far as is known, this is one of the few instances on record where a large educational institution will have been built without encroaching upon its original endowments. It is announced that those entrusted with the destinies of the Rochester institution have chosen deliberately to build modestly and simply and to place the future reputation of the school in its scholastic attainments rather than in its outer appearance.

A final addition to the medical school and hospital group, as at present planned, will be the new municipal hospital to contain 240 beds to be built by the city of Rochester at some time in the near future close by the Strong Memorial Hospital, and coordinated with it both physically and in its operation. Piling already has been driven for the foundations of this structure.

It will be remembered that the General Education Board and George Eastman, of the Eastman Kodak Company, provided the sum of \$9,000,000 for the foundation of a medical school for the University of Rochester. To this amount was added a donation of \$1,000,000 from the two daughters of the late Henry A. Strong for a hospital to be built in conjunction with the school in order to enable it to carry out its work under the most favorable conditions.—*Science*.

IN order to make available to the general public at moderate prices authoritative books on all phases of human health, the National Health Council has arranged with the Funk & Wagnalls Company for the publication of the National Health Series. It will contain twenty books of about 18,000 words each, written by the leading health authorities of the country. These books, bound in flexible fabrikoid, sell for 30 cents each, or \$6.00 for the series of twenty. They are to be issued in sets of five; the first set appeared about the first of February. The titles follow:

Man and the Microbe; How Communicable Diseases are Controlled. By C. E. A. Winslow, Dr. P. H.; Professor of Public Health, Yale School of Medicine.

A description of germs and germ diseases and how they are spread, together with practical methods of disease prevention by means of sanitation.

The Baby's Health. By Richard A. Bolt, M.D., Gr. P. H.; Director, Medical Service, American Child Health Association.

How to care for the baby so that it will be healthy, will develop properly, and be strong and free from disease.

Personal Hygiene; The Rules for Right Living. By Allan J. McLaughlin, M.D.; Surgeon United States Public Health Service.

Practical suggestions as to how to apply personal hygiene to promote health and get the most out of life.

Community Health; How to Obtain and Preserve It. By D. B. Armstrong, M.D.; Sc.D.; Executive Officer of the National Health Council.

An outline of what the community should do for the health of its citizens and what each person should do to make his community a health place.

Cancer; Nature, Diagnosis, and Cure. By Francis Carter Wood, M.D.; Director, Institute for Cancer Research, Columbia University.

The best statement about cancer ever written for the laity. It tells what it is and how to know it and have it cured.

Copies of the books and information concerning future issues of the series may be obtained from Funk & Wagnalls Company, 354 Fourth Ave., New York.

MISCELLANY

WHY THE MEDICAL PROFESSION SHOULD BE RELIEVED FROM PRESENT TAX BURDENS

The medical profession has three causes for complaint concerning federal taxation:

1. That under the Harrison Narcotic Act, as amended by the Revenue Act of 1918, an excessive and now unnecessary war tax is imposed on the profession.

2. That the physician is compelled to pay an income tax on money paid out by him for certain expenses of his profession, and is thus taxed on an amount in excess of his net income.

3. That the physician is taxed on his earned income at the same rate that he and taxpayers generally are taxed on income from investments, etc.

The following memoranda are submitted to aid the profession in making a clear statement of the situation in presenting to Congress its appeal for relief.

Arguments Against the Continuance of the War Tax under the Harrison Narcotic Act.—In protesting against the continuance of taxation under the Harrison Narcotic Act at the rate fixed by the Revenue Act of 1918 as a war measure, three dollars a year, it should be made clear that the medical profession is

not protesting against the Harrison Narcotic Act itself, nor against such taxation under it as may be necessary to give the federal government jurisdiction. The Harrison Narcotic Act originally fixed a tax of one dollar a year, which was deemed sufficient to secure federal jurisdiction, and of that tax no complaint was ever made. Any tax in excess of the minimum amount necessary to give federal jurisdiction is essentially an occupation tax on the physician and as such represents a discrimination against the medical profession, since federal occupation taxes are not imposed on other professions. So far as this tax may be passed on by physicians to their patients, it is a tax on the sick and injured, falling on them because they are sick and injured. The tax collected under the Harrison Narcotic Act is paid into the general revenues of the United States, and does not go directly toward the enforcement of the act. The amount collected under this act from all sources is largely in excess of the amount expended for the enforcement of the act—in 1922, for instance, \$610,311.13 in excess of the amount expended during the same year. In any event, however, there is no reason for imposing on the medical profession any greater part of the cost for enforcing the law than is imposed on any other group in the community, for the law is enacted for the benefit of the community and not for the benefit of the medical profession.

Argument in Favor of the Deductibility of Traveling Expenses and of the Cost of Postgraduate Study, as Expenses of the Practice of Medicine, in Computing the Physician's Income Tax.—In protesting against so much of the present income tax law as is construed as denying to the physician the right to deduct, in computing his federal income tax, expenses incurred in attending meetings of medical societies and in postgraduate study, the following facts should be borne in mind. The present law provides that the physician, in common with all other business and professional men, in computing his net income, may deduct, "all the ordinary and necessary expenses paid or incurred during the taxable year in carrying on any trade or business, including a reasonable allowance for salaries or other compensation for personal services actually rendered; *traveling expenses (including the entire amount expended for meals and lodging) while away from home in the pursuit of a trade or business; . . .*" "The Commissioner of Internal Revenue has ruled, however, that a physician who is away from home in attendance at a meeting of a medical society or while pursuing postgraduate study is not away from home in the pursuit of his profession and that the expenses incident to such travel and study are not ordinary and necessary expenses of the practice of medicine. Such expenses are regarded by the commissioner as merely personal expenses, such as are covered by the provisions of the income tax law which allow to all taxpayers, without regard to their callings or to the necessity for travel imposed by such callings, certain exemptions to cover personal expenses. Obviously, this ruling ignores the fact that such expenses arise in the case of a physician as incidents of his professional work.

The commissioner's interpretation of the law in this respect is out of harmony, too, with the provisions of the law generally as they relate to medical practice. The physician may, for instance, deduct as a professional expense membership dues paid to medical societies, but the ruling complained of penalizes him if he undertakes to make such a membership effective by attending the meeting of such societies. The incongruity of the ruling is further shown by the fact that if a physician travels from one place to another to consult with a fellow physician regarding the treatment of a single patient, he can deduct the expenses of such travel, whereas if the same physi-

cian travels between the very same places to confer with a hundred of his fellow physicians a consultation concerning the treatment of patients generally, he cannot deduct his expenses. If a physician travels from one place to another to examine one patient in order to apply the knowledge and skill thus acquired for the benefit of that patient, his traveling expenses are deductible; but if he travels from one place to another to engage in postgraduate study of many patients in order to make the knowledge and skill obtained available to the entire community which he serves, he cannot deduct traveling expenses, but must pay an income tax on them.

Obviously, to discourage meetings of medical societies and of postgraduate study, as the prevailing construction of the Revenue Act of 1921 now does, is poor public policy. Meeting in such societies and in the course of such study tends to conserve and promote public health. It tends, too, to increase federal revenues by increasing the earning capacity of the physician. Moreover, by bringing together physicians from various parts of the country, it tends to break down local prejudices and to encourage broader national unity and patriotism. Such travel ought, therefore, to be encouraged, not discouraged.

Argument in Favor of the Reduction of Tax Rate on Earned Income.—The provision of the proposed revenue law that makes the rate of taxation on earned income less than the rate on income from investments, speculation, etc., is new. The benefit thus conferred is to be extended to all taxpayers with earned incomes, and the physician is to be benefited merely as a member of the income-earning groups. The concessions in favor of earned incomes is based on the fact that taxation on an earned income is taxation on the productive activity of the taxpayer and tends to discourage such activity and that, since the productive activity of the taxpayer may be diminished or destroyed at any time by personal disability and is certainly destroyed by death, it is entitled to special consideration in the determination of the tax rate. The concession in favor of earned incomes has been recommended by the Secretary of the Treasury, but unless those who are to be benefited by it unite in an effort to make their position clear, the secretary's recommendation may not receive favorable action by Congress.

Procedure to Make Requests and Protests Effective.—State and county societies should adopt resolutions, and file copies of them with the Committee on Ways and Means of the House of Representatives, and the Committee on Finance of the Senate. This can be best done through an interested senator or representative in Washington. Copies of such resolutions should be sent also to all senators and representatives from the state from which the request and protest comes. Individual physicians should write to the senators and representatives who represent them in Congress, acquainting them with the views of the profession regarding the situation. This should be done immediately, as action on the pending bill will probably be not long delayed.

IMPORTANT DECISION HELPS AMERICAN CHEMISTRY

The decision of the United States Court, District of Delaware, in favor of The Chemical Foundation, Inc., is of far-reaching importance to the medical profession and to the manufacturers of medicinal chemicals.

It will be remembered that prior to the World War the medical profession was practically dependent upon foreign sources of supply for many important drugs. Patents were held in this country by foreign owners—not that the drugs might be

manufactured here, but that American firms might not make them.

In order to establish and foster the chemical industry in this country the patents were sold by the United States government to The Chemical Foundation, Inc., so that no exclusive licenses might be issued to American concerns. This plan of devoting these patents to the public use has stood the test of actual trial and has proven a success. Many of the important medicinal chemicals previously unobtainable from American sources are now manufactured in this country and the medical profession now has the assurance that, unless there should be some later and unexpected reversal of this decision, they may never again be dependent upon foreign monopoly in drug supplies.

As stated in *Drug & Chemical Markets*, "The complete exoneration of the officials and trustees of The Chemical Foundation and the justification of all their plans to preserve an independent chemical industry as a national weapon of defense, is gratifying not alone to them individually, but to all right-thinking and patriotic citizens."

The *Oil, Paint and Drug Reporter* says editorially, "The effect of the decision should be one of the greatest encouragement. In fact, it should be beneficial to the whole field of chemistry and related science in this country, as it makes clear that chemistry and its allies function importantly in the interest of the public and the nation."

To further foster the use of American-made chemicals, the Federal Trade Commission, the National Research Council, the Council on Pharmacy and Chemistry of the American Medical Association, and other agencies have suggested and provided new and distinctive names for American synthetics which are rapidly replacing those formerly made only abroad.

It has been frequently suggested that physicians might be performing a patriotic duty to use, specify, and refer to these drugs by their American names.

Among the products so designated are arsphenamin, neoarsphenamin, barbital, barbital sodium, cinchophen, neocinchophen and procain.

The Chemical Foundation, Inc., also licensed certain manufacturers to make, in this country, acriflavine and neutral acriflavine.

Inasmuch as "This sale was in effect a sale to America and its citizens, not to persons then engaged in chemical and allied industries," the medical profession is to be congratulated and it is hoped will take advantage of this opportunity to encourage an independent chemical industry in this country.

ANNOUNCEMENT OF AWARDS FROM THE BENJAMIN FRANKLIN FUND

Established in London, 1759

Benjamin Franklin spent much time in England from 1757 to 1762 representing the American colonies. While here he placed one hundred pounds in the hands of members of the Society of Friends as a trust, to be invested with accumulations, for not less than one hundred and fifty years. Thereafter at the discretion of the trustees, awards were to be made from time to time for the most valuable contributions to science considered by them either manuscript or published, on the subject of cures, but particularly in relation to surgery, the nervous system and part "mind treating" have in the recovery and preservation of health.

Announcement is now made of the first awards from this fund.

Minor award, Fusakichi Omori of Tokio, unpublished treatise, "The Rotary Knife in Surgery," five hundred pounds and publication of treatise.

Award, Charles P. Steinmetz of Schenectady, privately published treatise, "The Nervous System as a Conductor of Electrical Energy," one thousand pounds and republication of treatise.

Major award, Pierson W. Banning of Los Angeles, on published work, "Mental and Spiritual Healing; All Schools and Methods; a Text Book for Physicians and Metaphysicians." Two thousand five hundred pounds, scholarship.

ROBERTS LLOYD-GRESHAM, for the Trustees.

London, W. I.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID THE STATE ASSESSMENT FOR ALL
THEIR MEMBERS)

Chariton County Medical Society, December 13, 1923.

Madison County Medical Society, January 19, 1924.

Platte County Medical Society, January 22, 1924.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One Hundred and First Meeting, January 14, 1924

1. EXHIBITION OF CASES.

A. OBESITY FOLLOWING INFLUENZA.

—By DR. B. D. SENTURIA.

Patient H. B. Age 14. Entered 12-12-23 with complaint of excessive weight, pain in small of back, causing inability to walk; boils. Family history is negative. The patient's birth and development were normal until eight years of age. Following influenza at this time he began putting on weight steadily, increasing from 75 lbs. to 210 lbs. in October, 1922. He began taking patent medicines and reduced until at present with hospital treatment he weighs 160 lbs. About two years ago patient was troubled with severe deep frontal headaches which have ceased about half a year ago. In June of last year (1923) the patient was struck with severe pain in small of back and has been unable to walk without support ever since. He has been able to do so since supplied with a brace for his back.

Physical examination shows very obese boy with panniculus accumulated on face, neck, breasts and abdomen. Becomes short of breath easily and is markedly cyanotic. Furuncles on back of neck and acne pustules over back. Pupils, visual fields and ophthalmoscopic examination, negative. Stereo of skull shows a small sella but well delineated. Nose and throat show nothing definite; thyroid not enlarged. Heart and lungs clear. Arteries rather soft. Blood pressure systolic from 150 to 170, diastolic 115 to 130. X-ray of chest shows no gross pulmonary changes. Heart shadow generally increased in size and apparently dislocated to the left. Abdomen shows a large apron of fat, and numerous reddish striae. Genitals infantile in type. Hands and feet small and spade like. The fourth dorsal vertebra is markedly tender. X-ray of spine reveals the fourth lumbar vertebra much diminished in its vertical dimension and the remaining vertebrae to a less extent. There are six lumbar vertebrae. Epiphyses of hands and feet ununited. Neurological examina-

tion shows a very bright co-operative boy. He is in the 2nd year of high school. Otherwise no neurological findings. Urine and blood are negative. Basal metabolism 7 per cent minus. Vital capacity 1,400.

Diagnosis brings up the question of hypopituitarism, post-influenzal obesity, and tumor of adrenal cortex.

DISCUSSION.

Dr. R. A. Kinsella: When Dr. Bauer was here from Vienna, he spoke of cases of marked obesity following influenza. One of the most useful of his remarks was his emphasizing that there is no such thing as a definite glandular type of obesity—no such thing as pituitary obesity, thyroid obesity, ovarian obesity—that each case has to be worked out and a diagnosis made largely by elimination of certain glandular disfunctions. He added to our previous knowledge in describing the type of obesity reported in Germany, and also in the clinic in Vienna after encephalitis, with involvement of the base of the brain at the mammary bodies, definitely avoiding the pituitary gland as histologic evidence proved. The beginning of this case is suggestive in that respect. The etiology of encephalitis is, of course, not yet settled. Such a diagnosis as cerebral obesity could only be made by eliminating all the other causes of obesity, such as pituitary, ovarian and thyroid disturbances.

Dr. W. H. Olmsted: The boy had been much fatter, having weighed 200 pounds, whereas his present weight is only 160 pounds. At that time he did not suffer from pain in the back as now. It is interesting to consider how he has gained weight. The boy, as we observed in the hospital, is not a glutton. He has not been active, especially since his back has been giving so much disturbance. He was previously an active boy physically, so that if there is anything abnormal in the present condition which the pain in the back and his inactivity do not explain we have in mind to try to see what effects are noticed in the metabolism after the ingestion of food, especially as regards the specific dynamic action. Will this boy show the normal heat production after ingestion of protein?

B. A CASE OF ENDOMETRIAL CYST OF THE OVARY WITH IMPLANTATION ON THE LOWER POSTERIOR UTERINE WALL. — By DR. O. H. SCHWARZ.

This specimen was obtained at autopsy from a patient dying from a strangulated hernia. She was nulliparous and had had no symptoms during her life referable to her pelvic condition. The specimen consists of the entire uterus, both tubes and ovaries. The left ovary was markedly enlarged, about 6 cm. in diameter, and on section contained two definite cavities—one 4 cm. in diameter, and the other 1½ cm. in diameter. The smaller cavity was a simple follicular cyst; the larger cavity was filled with a chocolate-brown material which stained the lining of the cavity a dirty yellow brown color. On section this cavity was lined with typical endometrial tissue. The ovary was markedly adherent to the lower posterior surface of the uterus at which point the chocolate cyst seemed to have previously perforated. The uterine wall at this point was markedly thickened and covered with dense, vascular adhesions. On section uterine glands were found invading this area of the uterus. The endometrium was normal in the uterine cavity and did not invade the wall. There were numerous small myomatous nodules in the wall.

This case illustrated beautifully a late stage of

the condition so well described by Sampson. The endometrial tissue in the ovary develops into a cyst from previously transplanted endometrial tissue from the tube, the ovary acting as an intermediary host and subsequently after rupture of the cyst deposits of portions of its lining take place on the lower posterior wall of the uterus.

2. FURTHER EXPERIMENTS ON THE PREPARATION AND PURIFICATION OF INSULIN.—By Drs. P. A. SHAEFFER, E. A. DOISY and M. SOMOGYI.

The protein fraction precipitated from semi-purified insulin solutions (from beef pancreas) at pH 5 as earlier described (*Jour. Biol. Chem.* LV, 1923) which material carries the insulin activity, has been separated into three proteins, each being precipitated at slightly different reactions. The activity of the most active protein fraction is such that 0.03 to 0.06 mg. produces typical hypoglycemia and convulsions in 2 Kg. rabbits. In view of the fact that activity has not been found in the absence of this particular "insulin-protein," and appears to be constantly associated with it, and in view of the destruction of activity by proteolytic enzymes, the authors are inclined to the view that insulin activity is a property of the "insulin-protein" and not of an admixture. The correctness of this view can be decided only by the result of efforts to further concentrate or separate insulin from this protein.

Based upon the properties of the "insulin-protein," the method of preparation has been materially improved and simplified and the yield increased.

3. INSULIN AND HYPERGLYCEMIA.—By DR. S. H. KAHN.

The presentation of a study of the effects of insulin on the blood sugar of seven normal individuals, fourteen diabetics, nine diabetic coma cases and three pre-coma cases.

Method.—The normal cases and the diabetics were starved for twelve hours; the amounts of insulin used were from six to eleven units subcutaneously, blood-sugars taken at various intervals up to 360 minutes, particularly the 90 minute and 180 minute interval. In the coma cases, immediately after obtaining the blood for a sugar determination there was injected from 20 to 100 units of insulin subcutaneously, at the end of three hours another blood sugar was taken and more insulin injected, blood-sugar taken three hours later, etc.

The results confirmed those found by Fletcher and Campbell that the higher the blood sugar the greater its fall in both normals and diabetics. In addition it was shown that in normals the return to the normal blood sugar level takes place in an inverse proportion to the weight; also that the reduction of the blood-sugars in diabetics is controlled to a great extent by (a) the weight of the individual; (b) the amount of insulin used, and (c) the tolerance of the patient.

It was found in coma cases that with increasing amounts of insulin per kilo of body weight, the amount of blood-sugar reduction per unit of insulin increased. From this it was thought that the products of these two ratios might tend toward a constant.

$$\begin{array}{l} \text{Reduction of Blood Sugar} \quad \text{Wt. in Kgs.} \\ \hline \text{Units of Insulin} \quad \times \quad \frac{\text{Units of Insulin}}{\text{Wt.}} = K \\ \text{or } \frac{R}{U} \times \frac{Wt.}{U} = K \quad \text{The "K" was found very similar in three successive cases.} \\ \text{If } \frac{R}{U} \times \frac{Wt.}{U} = K \text{ then } R = \frac{K \times U^2}{Wt.} \end{array}$$

By determining the initial blood sugar, this formula was used to estimate beforehand the reduction of the blood sugar at the end of three hours and at the end of six hours. The percentage difference between estimated blood sugar and that actually found for the three hour period ranged from three to eight per cent; for the six hour period from eight to twelve per cent. The blood sugar reduction could not be estimated in cases complicated by marked cardiac failure, marked hyperthyroidism, as well as marked lowering of alkali reserve.

4. THE CARBOHYDRATE VALUE OF INSULIN.—By DR. WM. H. OLMSTED.

The importance of examination of a quantitative ratio between carbohydrate and insulin was pointed out and a brief review of the statements in the literature by other observers was given.

The material was the study of ten cases suitable for this work. The ratios were calculated by subtracting the patient's tolerance from the total carbohydrate tolerated by the patients and dividing by the units of insulin administered. The tolerated carbohydrate was assumed to be the total carbohydrate fed minus the urinary sugar. The different values of insulin under different conditions was discussed at length and emphasis laid on the many variables which make the interpretation of an accurate ratio difficult. The evidence seemed to show that about 1.4 gms. of carbohydrate was burned for each unit of "H" insulin, or in terms of the new universal unit 1.9 gms.

5. THE EFFECT OF PROLONGED INSULIN THERAPY ON THE CARBOHYDRATE TOLERANCE OF INFANTS AND CHILDREN.—By DR. A. F. HARTMANN.

There is a lack of agreement of opinion concerning the recovery of carbohydrate tolerance in cases of diabetes mellitus treated for long periods of time with insulin. Some are of the opinion that there is actual recovery, and some are of the opinion that there is not. Our experience with infantile and juvenile diabetes leads us to the opinion that there are two main types of diabetes; the one of long standing and of relatively slow progression in whom the carbohydrate tolerance has reached a very low level before insulin therapy has been started, and does *not* rise appreciably even after prolonged insulin therapy; the other, or acute type, in whom symptoms have been of relatively short duration, but of great and progressive severity with resulting very low or absent tolerance and coma in a month or two after onset of symptoms, in whom, after sufficient insulin therapy, the carbohydrate tolerance generally *rises* and sometimes to such an extent that within a few weeks the patient can tolerate a very liberal diet without hyperglycemia, glycosuria or insulin.

Two cases illustrative of each type were cited. Abstracts of their clinical histories were given, photographs exhibited and charts showing graphically the treatment and recovery of acidosis and coma and in the acute type of case the recovery of carbohydrate tolerance were shown as lantern slides.

DISCUSSION

Dr. Drew Luten: I would like to ask one question: Whether it ever happens that the sugar tolerance of a patient with diabetes that was apparently severe and progressive, improves without insulin? In the past when they did not get insulin, did such patients ever improve in this way? Might that sort of thing have happened without insulin?

Note.—Insulin used was of the H-10 standard (Eli Lilly & Co.).

Dr. Olmsted: In many cases, just as excellent results may be obtained without the use of insulin as through its use. We have patients who have never had insulin who show as fine a gain in tolerance as any gain in tolerance through the use of insulin. With a severe grade of diabetes one can only obtain gains in tolerance through the use of insulin.

Dr. P. A. Shaffer: I am scarcely competent to review all of the many points brought out in the valuable papers of Drs. Kahn, Olmsted and Hartmann, but I shall gladly comment on some of them. I think Dr. Hartmann's conclusions from his beautifully studied cases are in harmony with the views of other clinicians for adults. He finds that some children after insulin treatment show a marked gain of tolerance, permitting a decrease or discontinuance of insulin; while others show no evidence of recovery of carbohydrate tolerance, and with these the full amounts of insulin must be continued. In the literature there are a number of cases which demonstrate beyond question a marked regain of tolerance in adults without insulin. A clear cut case is "Cyril K" studied by DuBois, who at one time, on a high protein diet, and with an abscess on the neck, was a total diabetic. During the next two months (fasting, undernutrition and low protein diets, and drainage and healing of abscess), he regained a tolerance for 150 gms. carbohydrate. This must have been an acute functional disturbance, and as such is to be distinguished from the more common type which fails to regain tolerance, the latter due presumably to an organic or permanent loss of pancreatic function. I suppose all will agree with Dr. Hartmann that there are these two types, among children as well as adults. His data and curves showing the effect of insulin administration are very striking and valuable.

Dr. Olmsted's data on the carbohydrate value of insulin show that the value is not a constant. He finds, if I understand correctly, from 0 or 0.4 to 2.8 gm. glucose burned per unit of insulin. With such variations we may perhaps speak of the "value of K," but not of a "constant." There are too many unknown or variable factors in the equation to expect close agreement, fluctuations in the subjects tolerance and uncertainty of the "unit." I know that Dr. Olmsted appreciates these difficulties and does not place too much reliance upon the figures. Recent work reported from Toronto on the same subject with depancreatized dogs shows variations from 1 or 2 to 20 gm. glucose per unit with decreasing doses of insulin. From the practical point of view, however, such results are of great value for determining the amount of insulin to be used in a given case. The usual value is I believe 1.5 or 2. gm. per unit.

Dr. Kahn, if I understand his work, is doing with patients what others are trying with rabbits—the attempt to determine how much of a drop in blood sugar is caused by a unit of insulin, or the assay of insulin by blood sugar lowering. This also is complicated by the uncertainty of what a "unit" is. In his formula Dr. Kahn uses the square of the units of insulin. It is difficult to see why this should apply. It is perhaps an expression of the relatively marked blood sugar lowering effect of small doses of insulin, often seen with rabbits. I am not surprised that the "value of K" in Dr. Kahn's results is so variable. It also can hardly be regarded as a "constant." A close correlation of his data with those of Dr. Olmsted on the same subjects would perhaps aid in their interpretation, and possibly be an improvement upon the rabbit method of assay.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Cape Girardeau County Medical Society was held in the execu-

tive offices of the Chamber of Commerce rooms, No. 313 Liberty National Life Building, Cape Girardeau, on January 14, 1924, being called to order by the President, C. A. W. Zimmermann.

Since Secretary D. G. Seibert and former Secretary D. I. L. Seabaugh of Jackson were called away, E. H. G. Wilson was appointed secretary pro tempore.

Members present were: Drs. H. L. Cunningham, D. H. Hope, W. N. Howard, O. L. Seabaugh, G. B. Schulz, W. F. Yount, E. H. G. Wilson and C. A. W. Zimmermann.

The minutes of the December meeting as published in the Bulletin were read and approved.

A motion of Dr. E. H. G. Wilson and Dr. G. W. Vinyard of Jackson, be placed on the Honor Roll was duly seconded and unanimously carried. In this connection favorable comment was made of Dr. Vinyard's faithfulness to the society by several members and the hope was expressed that the doctor would attend meetings frequently.

The program committee made a partial report which was read and approved as submitted.

Dr. O. L. Seabaugh reported two cases of interest as follows: The first was a woman whom he attended in her second pregnancy, which event ran a normal course and terminated without complications. The only factor in the past history, which might have influenced her status presens was an inflammation of her middle ear three months previous. Dr. Yount had performed myringotomy and secured a slight drainage of serum. In a few days the ear had, as far as subjective symptoms and objective signs were concerned, completely healed. Now six days after her normal labor Dr. Seabaugh was called and obtained the history that the patient had suffered a sudden severe pain "like a shot" in her head. She now had fever for the first time, also had terrific headache, diplopia and strabismus. In the course of a few hours she developed a hyperpyrexia with all symptoms of a basilar meningitis, from which she died in two days. An examination of the ear during the last illness by Dr. Cunningham revealed no abnormalities and on an examination of the pelvic organs no pathology was found. Dr. Seabaugh considered he had to deal with an acute meningitis which followed a thrombus. Every member present entered into the discussion and the consensus of opinion appeared to be that a meningitis no doubt existed and that, in the absence of a spinal fluid examination, it could not be definitely stated whether a dormant infection in the ear awakening, or whether an embolism from the uterus was the cause, or even whether this might not have been a case of epidemic cerebrospinal meningitis, a case of the latter disease having just been recovered from in this county. The onset points to thrombus.

The second case was in a multipara now eight months pregnant. She had been suffering severe intrapelvic pain for some time and was found in shock by Dr. Seabaugh when he responded to call. A diagnosis of internal hemorrhage was made and on opening the abdomen it was found to contain much blood which was escaping from a ruptured varicose vein in the left broad ligament. The vein was ligated and resected. The patient went to term, gave birth to a normal baby in normal manner and is well today.

Dr. Zimmermann read a brief address offering suggestions for the year and expressing the hope that all members would co-operate in an effort to make all meetings of full attendance and thereby successful. Dr. Cunningham's motion to adjourn was seconded and carried. Dr. Wilson invited the members to a nearby restaurant where he ordered refreshments for us. During the repast stories (par-

lor and others) were exchanged and it was bitterly lamented that Tony Faust had gone out of business.

E. H. G. WILSON, M.D., Secretary pro tem.

GASCONADE-MARIES-OSAGE MEDICAL SOCIETY

The Gasconade-Maries-Osage County Medical Society meeting was held in Dr. Seba's office at Bland. The following doctors were present and participated in the proceedings: S. E. Gaston, Meta; J. J. Radmacher, Argyle; F. J. Wessling and P. J. McGann, Freeburg; H. S. Gove, Linn; H. M. LeFever, Belle; Julius Lingenfelder, Rosebud; M. E. Spurgeon, Red Bird, and the two home doctors, Bunge and Seba. Dr. Lingenfelder made application to be transferred from the Nebraska State Medical Society to the Missouri State Medical Association through the Gasconade-Maries-Osage County Medical Society, which application was accepted. Dr. H. M. LeFever, of Belle, whose application was acted upon by a committee. They made a favorable report and he was accepted as a member and paid the dues of the society for the year of 1923.

Three clinics were presented by Dr. Seba; they were examined and their condition discussed.

The election of officers occurred and the following were elected: President, M. E. Spurgeon; Vice President S. E. Gaston, Meta; Secretary and Treasurer, F. J. Wessling, Freeburg.

The committee on resolutions reported the following: The undersigned Committee on Resolutions most heartily endorse the St. Louis *Star* for their exposure of the medical diploma mill of St. Louis and Kansas City.

As committee John D. Seba, P. J. McGann and H. M. LeFever.

The report was accepted and ordered published in the St. Louis *Star* and Kansas City *Journal-Post* and the county papers of Gasconade, Maries and Osage counties.

Drs. Underwood, LeFever and Gaston were elected censors for the ensuing year.

Dr. F. H. Caughell of Hermann, Dr. H. S. Gove of Linn and Dr. W. R. Ferrell of Vienna were appointed as a committee of intelligence, whose duty will be to examine the records of their respective counties, report to president of the county medical society and to the Missouri State Board of Health of all the men who are registered within their respective counties as men or women who are engaged in the practice of medicine, or midwifery, and also those parties who are treating the sick, may they be osteopath, or chiropractors or any other cult.

The next meeting of the society will be the second Wednesday in January, 1924, in Freeburg.

A resolution pledging the support of the county medical society in prosecuting persons practicing medicine without a license was adopted as follows:

Resolved, That we stand as a unit behind the prosecuting attorney in the prosecution of men and women who are practicing or treating the sick without first obtaining a license from the Missouri State Board of Health to do so, no matter what cult or system they pretend to follow.

JOHN D. SEBA, M.D., Secretary.

CHARITON COUNTY MEDICAL SOCIETY

The Chariton County Medical Society held its meeting at Salisbury, in the office of Dr. Hawkins, December 13. The president, Dr. Hawkins, presided. The following members and visitors were present: Drs. J. F. Welch, J. D. McAdam, W. O. Hawkinson, M. B. Austin, H. E. Tatum, Roy F. Knowles, W. D. West, Jno. W. Hardy and J. D. Brummall. Visitors: Drs. E. J. Goodwin, of St.

Louis; H. L. Dwyer, of Kansas City; R. M. Fellows, of Salisbury.

The application of Dr. Fellows for membership was reported favorably and he was unanimously elected. The election of officers for the ensuing year resulted as follows: President, John Hardy, Sumner; vice president, R. M. Fellows, Salisbury; secretary-treasurer, J. D. Brummall, Salisbury; censor for three years, H. E. Tatum, Brunswick; delegate to State Association, John Hardy; alternate, R. M. Fellows; committee on public health and instruction, M. B. Austin.

The regular meeting was followed by a public meeting, which was addressed by Drs. Goodwin and Dwyer. Dr. Dwyer substituted for Dr. R. L. Neff, of Kansas City, when the latter was prevented from attending. Dr. Dwyer gave a most excellent and informative address on diphtheria and the Schick test in language easily understood by the lay audience. The description of the value of the Schick test was made more graphic by the presence of several children who had been inoculated and presented the reaction in various degrees.

Dr. Goodwin gave a short talk preceding the arrival of Dr. Dwyer, whose train was late, on the development of preventive medicine. He described the manner in which the spread of yellow fever was finally discovered to be due to the stegomyia mosquito through the investigation of Drs. Reed, Carroll and Lazear, during the army occupation in Cuba. He told about how the hookworm was found responsible for the inertia and indolence of those infested. He spoke of other contagious diseases and the manner in which they are spread and how the public can co-operate with the medical profession in the prevention of contagious diseases. About fifty people attended the public meeting.

Following the dismissal of the lay audience Dr. Fellows read an interesting resume of pernicious anemia, describing a case that had come under his observation and demonstrated blood conditions under the microscope.

A vote of thanks was extended to the visiting physicians.

The Salisbury members had prepared an inviting luncheon for the entertainment of the visitors after the meeting.

J. D. BRUMMALL, M. D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society held its "Hal-lo-ween" meeting at The Snapp Hotel in Excelsior Springs, with fifteen members and wives in attendance. A sumptuous noon-dinner was the opening number. Under the personal supervision of Mrs. Snapp, the table was decorated with autumn leaves, chrysanthemums and other cheery reminders of the festive season. The viands were characteristic of that famous hostelry—the best to be had, and served in happiest style. It was a "homey" meeting—more like a large family reunion than a periodical assembling of a scientific body.

The scientific session opened with our President, Dr. Peterson, in the chair. Minutes of April meeting dispensed with—a heavy rain had prevented the June meeting in Smithville. The August session, in Kearney, was reported with photogravures in the *JOURNAL*, which the society heartily endorsed.

A resolution by Dr. Suddarth, commending the St. Louis *Star* and the Kansas City *Journal-Post* for their activities in exposing criminal practices of "Diploma Mills" in Missouri, was read and passed unanimously. A copy was ordered sent to the *Star* of St. Louis and to the *Journal-Post*.

The matter of delinquency in dues came up for discussion. It was brought out that one delinquent mem-

ber may keep the entire society off the Roll of Honor for the entire year. Just what satisfaction is afforded a member of this form of procedure is hard to understand. A resolution was offered, or rather an amendment to the by-laws, and was unanimously adopted, providing for payment of all dues before the first of May. Failure to comply automatically suspends the member, who can only be reinstated by a majority vote of the society, after paying all arrearages. This society is going after all delinquency—whether of financial or fraternal nature. Non-affiliation is getting to be a canker-sore.

Dr. E. C. Robichaux read a paper embodying the report of a case from his practice. The high lights were tonsillectomy, development of an extreme angioneurotic edema, history of asthmatic attacks, and the use of adrenalin, which raised arterial tension from 97 to 170 mm. This dropped to 97 on discontinuing the drug. Eliminative treatment cured the case. The edema in this case raised the weight of the patient "75 pounds over-night." The society by unanimous vote asked Dr. Robichaux to present his paper to the *JOURNAL* for publication.

After discussion of general nature by Drs. Craven, Musgrave, Baird, Goodson, Rothwell, Wallace, Peterson and others, the Society adjourned to meet in Liberty in December.

J. J. GAINES, M.D., Secretary.

The Clay County Medical Society held its December meeting at the Major Hotel in Liberty Monday evening, December 17, 1923. About twenty-nine members and wives participated in an elegant Christmas dinner arranged for the occasion by the Liberty members. Roast turkey and old Virginia cured ham were the central features of the sumptuous repast. The Major Hotel, noted for its hospitality, is only surpassed by that of the splendid wives of our Liberty members. Every guest was made to feel at home and the dinner will long be remembered.

Election of officers for our seventieth year resulted as follows: President, Dr. J. H. Rothwell, Liberty; vice-president, Dr. W. C. Hamilton, Kearney; secretary, Dr. J. J. Gaines, Excelsior Springs, who is also treasurer; censor, Dr. E. E. Peterson, Nashua; delegate, Dr. J. H. Rothwell; alternate, Dr. J. E. Baird, Excelsior Springs.

The plan of meeting six times a year, meetings to include the wives of members, and opening each session with dinner was adopted for 1924. The local ladies delightfully entertain the visiting lady members at each place of meeting and our sessions are always looked forward to with genuine anticipation.

Our Society adopted a resolution that non-payment of dues after the first of May will call for a registered notice of delinquency to the member defaulting, who will automatically suspend himself by further delay in payment, and he may be re-instated only by payment of all arrears and must have a majority vote of the Society in favor of his restoration. Non-affiliation will soon demand action of our censors and those who only pay dues, taking no part in the scientific sessions for years at a stretch, may have their attention called to that form of delinquency. The medical society is not the place to sell medical standing.

Drs. C. C. Conover and Frank Hall, of Kansas City, were invited guests at this meeting. Dr. Conover giving a stereopticon lecture on "The Sequelae of the Acute Infection," in which he was ably assisted by Dr. Hall. Both men are convincing speakers and left nothing unexplained in this department of medical research. Dr. Conover agreed with the axiom that the history of the case is 75 per cent of the diagnosis. Also that a history of some acute infection can be elicited from practically every chronic com-

plainer, possibly an acute bowel condition, an ear, the tonsils, typhoid fever, bronchitis, a "cold," or some other common thing. From these preliminary infections bacteria enter the blood-stream, and may set up a pathological process anywhere within the arterioles, the heart, lungs, spleen, pancreas, kidneys, uterus, brain—anywhere—and by a peculiar cell proliferation defy arrest until the small vessel is occluded and the nutrition of the part permanently impaired. Dr. Conover particularly stressed the "nervous heart" as a striking instance of infection with some apparently harmless acute infection as its antecedent. He urged a deeper investigation into the causes of some everyday troublesome complaints and that we do not dismiss such patients as hysterical or nervous, the paroxysmal heartbeat being met most often in everyday experience.

To miss such a scientific treat as this was indeed a misfortune to anyone whose business it is to keep humanity fit.

Our next meeting will be in Excelsior Springs the last Monday in February, 1924.

J. J. GAINES, M.D., Secretary.

CLINTON COUNTY MEDICAL SOCIETY

The regular meeting of the Clinton County Medical Society was held at Plattsburg, on Friday, October 26. Dr. C. H. Risley in the chair.

Dr. Risley gave a very interesting talk on the subject of the cults and the recent investigation of illegal practitioners.

Dr. L. A. Wilson read a paper on "Rectal Examination in the Conduct of Labor." Both were followed by considerable discussion.

Dr. R. W. Rea introduced a resolution endorsing the action of the State Medical Association, the State Board of Health and Governor Hyde, in their efforts to rid Missouri of fake practitioners. The resolution which was adopted, follows:

Resolved, That we as physicians stand for the people and a clean, lawful medical profession; that we commend the action of the State Medical Association and the State Board of Health and Governor Hyde for their efforts to purge Missouri of unlawful medical practice, and say "Let us help go get them"; that a committee be appointed to inspect the registration of certificates and the records of the schools from which the diplomas of those practicing medicine in Clinton County have been issued. If there be any practicing in an unlawful way the same shall be brought to the eyes of the law, and we shall lend every effort to prosecute them.

Resolved, That a copy of the above resolution be spread upon the minutes, one sent to the State Board of Health one to the State Medical Association, one to Governor Hyde, one to Representative Shoemaker, and one to each of the local newspapers.

The next meeting will be held at Cameron in December, at which time a clinical and scientific program will be given. The new officers for the coming year will be elected at this meeting.

A communication from Secretary Goodwin concerning back state dues was read.

A letter was read from a film firm desiring to rent the Wertheim obstetrical and gynecological pictures to the society. Since two of the members had seen the pictures and expressed a very poor opinion of them, no action was taken.

No other business coming before the society the meeting adjourned.

L. A. WILSON, M.D., Secretary.

COOPER COUNTY MEDICAL SOCIETY

The first meeting of the Cooper County Medical Society for the year 1924 was held in the parlors of

the St. Joseph Hospital, at Boonville, on January 8, 1924. Dr. A. L. Meredith presided. This meeting was held in conjunction with the meeting of the staff of St. Joseph Hospital. The annual report of the hospital cases was read by the secretary of the staff.

Dr. Alex van Ravenswaay, of Boonville, read a very interesting paper on "Diathermy."

The following officers were elected for the ensuing year: President, A. L. Meredith, Prairie Home; vice-president, H. D. Quigg, Boonville; secretary and treasurer, P. A. Brickey, Boonville.

Following the election of officers, a general discussion was begun on ways of making our county society more important for each member and of arousing more interest.

The next regular meeting will be held on the night of February 5, at which there will be several interesting papers read by local men.

P. A. BRICKEY, M.D., Secretary.

DUNKLIN COUNTY MEDICAL SOCIETY

The Dunklin County Medical Society met in annual session at the Star Theatre in Kennett, on December 20, 1923. There was a fair attendance for the condition of the roads, travel being almost impossible owing to the almost constant rain. Those present were: Drs. J. A. Hogue, Holcomb; J. D. Van Cleve, Malden; S. T. Smith, Holcomb; P. L. Tipton, Senath; E. G. Cope, Hornersville; L. J. Matlock, T. J. Rigdon, Paul Baldwin, W. L. Gosage, Chas. W. Brown, Sr., E. L. Spence, of Kennett; Sam H. Snider, of Kansas City; Neil Moore, of St. Louis, and Dr. Goodwin, of Russellville, Ark.

After transacting the regular routine of business Dr. E. L. Spence, who has charge of the local health unit at this place, was elected a member of our society. The scientific program consisted of a fine lecture on "Stone in the Upper Urinary Tract," by Dr. Neil Moore, and one by Dr. Sam Snider on the "Diagnosis of Pulmonary Tuberculosis." These lectures were very interesting and well received by those present. Dr. Goodwin also addressed the society on the subject of health work and especially as regards trachoma.

After being properly discussed, resolutions of thanks to Drs. Snider, Goodwin and Moore were adopted by the society.

Dr. Rigdon made a motion receiving Dr. Snider into our society as an honorary member, Dr. Moore having been already received as such at a former meeting. Both Dr. Snider and Dr. Moore are natives of Dunklin County, but have sought and gained great success in their respective lines in other cities. We all enjoyed the meeting very much.

The society adjourned to the Elliott Cafe where we partook of an elegant repast and we enjoyed such a fellowship in eating, drinking, smoking and toasting as will not soon be forgotten by those present. It was 1:30 when we finally bade each other good night.

The following were elected officers for 1924: President, Chas. W. Brown Sr., Kennett; vice president, Paul Baldwin, Kennett; secretary and treasurer, T. J. Rigdon, Kennett; censor for three years, E. G. Cope, Hornersville.

T. J. RIGDON, M.D., Secretary.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in regular session in the court house at Clinton, October 24. The president requested Dr. C. W. Head to attend and preside. The meeting was called to order at 1:45 p. m.

The members present were: Drs. C. W. Head, Windsor; E. C. Peelor, N. I. Stebbins, S. A. Poague,

J. R. Wallis, J. R. Hampton, G. S. Walker, S. W. Woltzen, Clinton; J. G. Beaty, Huntingdale; L. L. Smith, J. W. Galbreath, Ulrich; J. J. Russell, Deepwater; J. M. Miller, Montrose. Visitors: M. P. Overholser, Harrisonville; W. Cline, R. J. Smith, E. V. Rawlins, Appleton City; G. D. Dalglish, Osceola; E. Y. Pare, Leeton; H. A. Heibner, Nevada; L. H. Callaway, Nevada; H. D. Atwood, Kansas City; J. J. Stephens, J. W. Crabtree, Clinton; W. E. Johnson, Warrensburg.

Dr. M. P. Overholser, of Harrisonville, read a paper on "Gastric Ulcer" that was clear and concise as to points of diagnosis and to treatment. This was discussed by Drs. Stebbins, Cline and Poague. It was closed by Dr. Overholser answering questions.

A girl, 11 years old, was present as a clinic. Drs. Heibner and Peelor were appointed to examine and report. They reported her well developed, but unsound mentally and claimed she should be sent to the Colony at Marshall.

Dr. W. W. Duke, of Kansas City, lectured on transfusion of blood, giving reason for, and conditions of disease demanding the remedy, the best manner to perform the operation and results accomplished.

Dr. Elmer D. Twyman, of Kansas City, gave a lecture on cancer, using several photos to show what had been accomplished by the different modes of treatment and detailing how and why each one was best applied. These lectures were very interesting.

Dr. G. W. Robinson, president of the Missouri State Medical Association, then lectured on the good accomplished by the regular profession in caring for the health of the public generally, and what more could be done if the county medical societies had more voice in having sanitation and hygiene properly observed.

Dr. E. J. Goodwin, secretary of the Missouri State Medical Association, then gave a talk on medical legislation and what should be done by the members of each county society to better it. He gave a resume of what had been accomplished and the manner in which it was done.

F. M. DOUGLASS, M.D., Secretary.

The Henry County Medical Society met in regular session in the court house, Clinton, on Wednesday, December 19.

The meeting was called to order by Dr. Douglass at 1:45 p. m.

Minutes of the previous meeting were read and approved. Members present were: Drs. S. A. Poague, E. C. Peelor, S. W. Wolzen, G. S. Walker, F. M. Douglass, all of Clinton.

The election of officers for the year 1924 was the first order of business. The election resulted as follows: President, Dr. Josiah H. Walton, of Windsor; vice-president, Edwin C. Peelor, Clinton; secretary and treasurer, Robert J. Jennings, of Windsor; delegate to State Convention, Samuel A. Poague, Clinton; Alternate, Simon W. Woltzen, of Clinton.

Dr. S. A. Poague related a very interesting case of childbirth, and the amount of work and trouble that was necessary to get through. It called up a discussion by all present and many cases were referred to.

F. M. DOUGLASS, M.D., Reporter.

ST. LOUIS COUNTY MEDICAL SOCIETY

At the meeting of the St. Louis County Medical Society, held on February 13, 1924, an application

for membership was presented by Dr. C. A. Poe, of 6131 Easton Ave., and was referred to the board of censors.

The transfer card of Dr. J. R. Clemens, of Webster Groves, from the St. Louis Medical Society to the St. Louis County Medical Society was acted upon and Dr. Clemens was elected to membership.

The secretary's financial report was received and on motion, a committee consisting of Drs. A. W. Westrup, Garnet Jones, and F. C. E. Kuhlmann, was appointed to audit the books, also act in the capacity of a budget committee and to report in the premises and make recommendations. The president announced that the program committee would, with its regular duties, assume the duties of the committee on publication.

Dr. J. A. Townsend brought up the subject of the proposed amendment, No. 5 of the Constitutional Amendments which are to be acted upon at the constitutional election, February 26. The subject was discussed extensively and conclusions were conveyed to the Missouri State Medical Association, the attention of Dr. E. J. Goodwin, secretary. Resolutions were passed endorsing the proposed amendment No. 5, and that the membership, individually and collectively, would work to secure its adoption. The following newspapers have promised to bring this matter to the attention of the voters in the county by publication: *Webster News-Times*, *St. Louis County Sentinel*, *St. Louis County Leader*, *St. Louis County Messenger*, *The St. Louis Countian*, *The Watchman Advocate*, and *The Kirkwood Monitor*. Similar requests were sent to the *St. Louis Globe-Democrat*, *St. Louis Times*, *St. Louis Star*, and *St. Louis Post-Dispatch*.

The committee on necrology presented resolutions expressing the Society's loss by the death of Dr. J. Wilson Dean. The resolutions follow:

Whereas, It having pleased Almighty Providence to remove from among us by death, Dr. J. Wilson Dean, of Pond, a member of this Society, January 5, 1924, therefore, be it

Resolved, That in his death the Society has lost an old and highly esteemed member, the community in which he lived, a faithful and highly respected physician and citizen, always ready to render his services for the relief of the sick and afflicted at all times cheerfully and without complaint, and be it further

Resolved, That we extend to his bereaved family our heartfelt sympathy in this time of distress and commend them to the Allwise Providence who doeth all things well; be it further

Resolved, That a copy of these resolutions be sent to the family, also spread upon the minutes of this Society as a record.

Respectfully submitted,

W. H. TOWNSEND,
P. M. BROSSARD,
VINCENT F. TOWNSEND,
Committee.

On motion the resolutions were unanimously adopted.

Dr. C. H. Nielson of St. Louis, read a paper on "Focal Infection," which was discussed by Drs. Cape, Davis, Dyer, Jones, Kuhlmann, and Marshall. The Society thanked Dr. Nielson for his address.

Members present: Drs. Belsey, Brossard, Cape, Davis, Dunnivant, Dyer, Jones, Knobb, Kuhlmann, Mitchell, O'Malley, Sutter, J. A. Townsend, W. H. Townsend, and Trumpour. Visitors: Drs. Marshall and C. H. Nielson

PUBLICITY COMMITTEE.

BOOK REVIEWS

NURSING AND NURSING EDUCATION IN THE UNITED STATES. Report of the Committee for the Study of Nursing Education and Report of a Survey by Josephine Goldmark, Secretary. N. Y., The Macmillan Company, 1923. 585 pp.

After reading the Report of a Survey of Nursing and Nursing Education in the United States, I have come to the conclusion that a broader piece of work could not be put forth. Not only in regard to the nursing profession and all it includes, but in the sincere interest of the health of the general public as well. The pros and cons of the arguments on all subjects under discussion are so thoroughly sifted down and both sides so clearly analyzed that it leaves nothing in the mind of the reader but the highest esteem for the individuals who have spent so much time, including patience and hard work, in putting forth a work of this kind. Since, however, it is the apparent ambition of the intelligent committee to get the opinions of the readers of their splendid work, it is, therefore in all charity and sincerity that the following few remarks are put forth.

Entrance age for student nurses in hospital training schools: To my mind no student should be accepted under twenty-one years of age. Very few girls if any are fully developed before that time, and the duties required of them are of such a nature as to overtax them in a very short time. A student of twenty-one years would never think of taking the chances in doing or not doing some of the things that a student of seventeen, eighteen or nineteen years would do. The majority of the students under twenty-one enter too often from the sentimental standpoint only, which in nine cases out of ten proves detrimental to the student and to the hospital and patients as well.

The eight-hour law for student nurses seems at present to be just a little hard for hospital training schools to regulate, due I rather think to the shortage of students. Anyone visiting the hospital training schools in California can see at a glance the wonderful advantage of eight-hour duty. Students look buoyant, intelligent, well, and happy. They have not that prematurely faded look, listless dragging way about them that we find only to often in hospitals retaining the twelve-hour schedule.

A permanently paid hospital staff, also a well paid staff of attendants, orderlies, and clerical assistants which have proved successful in a few hospitals will, in time it is hoped increase in number.

The high standards put forth by the survey in the need of public health nursing in all its branches, as well as the aim at better educational requirements for all workers enlisted are noteworthy, and it is with sincerest good wishes that the highest hopes of the committee will be realized in due time.

E. P. B.

CLINICAL EXPLORATION AND SURGICAL DIAGNOSIS. By Félix Lejars. Paris; Masson and Co., Editors. 1923. 778 pp.

American surgeons know the author best because of his work which was translated and published under the title "Imperative Surgery," and of which the eighth French edition appeared in 1921. Like it the work which is before us now is original both as regards title as well as to contents.

Beginning with the cranium and ending with the lower extremities the diagnosis of a surgical condition is treated systematically and quite exhaustively. "Exploration" with the eye and with the hand, which the surgeon always carries with him, is described very minutely in its application to all the various surgical manifestations. His technique is unique at times,

but everywhere it is evident that it is the outcome of his years of experience and great familiarity with the subject.

The book is profusely illustrated and appears on the market at an opportune time when the bedside examination seems to have lost its importance and too great value placed upon laboratory findings, the profusion of which has to some extent at least obscured our conception of the worth of direct examination of the patient.

R. E. S.

A CLINICAL GUIDE TO BEDSIDE EXAMINATION. By H. Elias, M.D., N. Jagic, M.D., A. Luger, M.D. Arranged and translated by Wm. A. Brams, Chicago. New York: Rebman Company, 1923. Cloth, 12-mo. Pp. 135.

This is one of those little manuals designed for students and young physicians to help them know what to look for as they examine their patients. Or, it might be called an index of the possibilities in any case, and it shows the student therefore what to look up in order to reach a diagnosis. It will be of help to older physicians when they are puzzled by some unusual type of case, or when they wish to make a thorough study of some case for presentation before a clinic. Since the book is of German origin, it follows the German phraseology and nomenclature. It would have been of help to American readers if the translator had added some of the British and French terms to help those who happen to have been trained on other nomenclatures. But for its purpose it is a worthwhile book to have on one's library shelf.

G. H. H.

PRINCIPLES OF BACTERIOLOGY. By Arthur A. Eisenberg, A.B., M.D., Director of Laboratories, St. John's Hospital (Canton, Ohio), etc. Second Edition. C. V. Mosby Company, St. Louis. 1923. Price, \$2.25.

This is an excellent book, containing the fundamentals of bacteriology, which are well presented. The object of the author has been realized and the book can be recommended as a text for such students as may be interested in elementary bacteriology and rudimentary laboratory work.

H. L.

HABITUAL CONSTIPATIONS Its Causes, Consequences, Prevention and Rational Treatment. Set forth in non-technical language by Ismar Boas, M.D., Professor of Medicine in Berlin. Translated by Thomas L. Stedman, M.D., author of "A Practical Medical Dictionary," etc. Funk & Wagnalls Company, New York. 12-mo. 1923. Price, \$2.00 net.

The author has undertaken the difficult task of instructing the layman how to rid himself of a very frequent and distressing symptom. If the patient knew his anatomy, physiology and materia medica, it is at least questionable if he should prescribe for himself. More emphasis should be placed on constipation as a symptom rather than a disease.

While constipation may be a contributing factor in the causation of hemorrhoids, at least 90 per cent. of American physicians ascribe the primary cause to be infection. The many makeshifts for the partial removal of hemorrhoids are amusing rather than instructive.

Due consideration should be made for the fact that the noted author thinks and advises entirely from the bases of an internist. It is just a little difficult, however, for one who looks through bifocals to understand why surgical relief should be so long deferred in acute conditions.

The chapters devoted to diet, medicinal agents and the use and abuse of enemas are very satisfactory and all that could be desired.

There is much of value for the discriminating reader who is able to say with Kipling: "At any price that I can pay let me own myself." W. H. S.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies

Issued Monthly under direction of the Publication Committee

Volume XXI

ST. LOUIS, MO., APRIL, 1924.

NUMBER 4

E. J. GOODWIN, M. D., EDITOR
3529 Pine St., ST. LOUIS, MO.

PUBLICATION { W. H. BREUER, M. D., Chairman
COMMITTEE { C. B. FRANCISCO, M. D.
M. A. BLISS, M. D.

ORIGINAL ARTICLES

CALCULUS ANURIA*

JOHN R. CAULK, M.D., F.A.C.S.

ST. LOUIS.

Calculus anuria is the discontinuance of the discharge of urine into the bladder produced by the blocking of one or both ureters with calculi; a condition of great seriousness but fortunately of comparative infrequency. Legueu in 1895 reported analysis of 86 cases. Morris in 1901 presented a critical study of 104 cases. Numerous authors have contributed to this important subject.

The anuria may be entirely due to suppression, but frequently it is due to retention. Retention predicts a much more favorable outlook, since its relief is usually quite promptly recompensed by the resumption of secretion, and furthermore indicates renal secretory activity. True suppression is much more serious, just as in the lower urinary tract obstructions from prostatic block or stricture, where such suppression is concerned with a true nephritis or pyelonephritis, rather than a mechanical influence.

The causes of this condition are:

1. The sudden blockage of both ureters with stone.

2. Complete obstruction of one ureter with the opposite kidney not functioning—

A. As a result of congenital absence, or its removal.

B. Complete destruction by disease, or such crippled function that it is incapable of withstanding the extra load which is suddenly forced upon it.

C. Congenital deficiency, such as infantile kidney and congenital hydronephrosis.

D. A result of reflex inhibition, the so-called reno-renal reflex.

The sudden obstruction of the ureter produces a marked engorgement and edema of the kidney with usually a primary retention within its pelvis. Such kidneys are often two or three times their normal size and it can be read-

ily seen that if such a kidney is physiologically disturbed with other antecedent conditions, such as infection or nephritis, serious consequences may ensue.

Most authors are unanimous in the belief that the majority of such anurias are due to mechanical obstructions, or ill kidneys, rather than to reflex inhibition of a normal kidney, although some cases of a definite reno-renal reflex seem to exist. It is, however, difficult to produce a protracted suppression in a normal kidney by hindering the outflow, or in any way disturbing the physiology of its mate. In over 100 dog experiments, in which I ligated the ureter there was not a single case of suppression of urine except for temporary cessation of function. A normal kidney subjected to strain or excitation, such as an increased load from the removal of its mate, or disturbance of its excretory duct, will show varying degrees of temporary suppression. We are familiar with the suppression due to anesthesia. McNider has beautifully shown the effect of different anesthetics upon renal elimination, calling particular attention to the effect of alkali balance and blood pressure changes. Unless these disturbances be profound, such kidneys resume their normal elimination.

We are, furthermore, acquainted with the fact that the placing of the ureter catheter in a normal kidney is often productive of a temporary cessation of secretion. Indeed, such cessations are more liable to occur in a normal kidney than in an abnormal one, but it is always transitory; whereas, in the abnormal organ it is liable to be protracted. In other words, it would seem that continued anuria has, as a more rational explanation, a definite pathological change rather than physiological freak. Cases have formerly been attributed to renal reflexes because of negative finding of calculi in the opposite side by means of X-ray examination. We realize, of course, that such examinations are unreliable since a certain small percentage of stones are invisible by means of the radiogram. It is occasionally clinically difficult to predict the presence of a stone in what is supposed to be the sound, unobstructed kidney. The case which Keyes reports of an

*Read before the St. Louis Medical Society December 4, 1923.

elderly gentleman who had a complete anuria followed by death and who had never given a symptom referable to either kidney and at autopsy showed one kidney completely atrophied and contracted about a calculus, the other dilated with a stone blocking its outlet, illustrates this features very forcibly.

Silent stones are singularly serious.

Kummel states that he has never seen a case of true reflex anuria. Keyes, Lequeu, Rovsing, Albarran, Casper, Watson and others have doubted the existence of such a condition and believe firmly that the other kidney has been diseased prior to the obstruction of its mate.

On the other hand Guyon, Israel, Marion, Baetznier, Eisendrath and Kelly believe that reflex inhibition can occur with the opposite kidney perfectly normal. I am convinced after a long series of experiments on animals and from clinical observation that such a reflex must be extraordinarily rare. Indeed, I doubt its existence; at least, I have never observed it.

In analyzing 260 cases of renal and ureteral stones, anuria has occurred six times.

In two cases it was due to a sudden blocking of the normal kidney with stone. The other kidney in each instance had been completely destroyed by calculi without suggesting the slightest indication of trouble.

The second group, in which there were two patients, was due to the blockage of a disturbed kidney with stone and the more normal kidney being the seat of acute pyelonephritis with retention.

Another case occurred in a woman who had a single kidney, the other having been unfortunately and unwisely removed for its first infection secondary to its mate, which had carried an old calculus pyelonephritis.

The sixth case concerned the blocking of the left ureter with a small calculus, the right kidney being destroyed by a large hydronephrosis.

It is quite striking to me that I have never observed anuria from the simultaneous blocking of both ureters with stones; this seems to be a frequent cause and a rational one since 20 to 25 per cent of all calculi are bilateral.

Thus in 100 animal experiments of ureteral blockage and 260 clinical cases, I have never observed an instance of reflex anuria. The duration of complete anuria is at times remarkable. There are cases reported in which such anuria has lasted for twenty-six days. There are numerous instances of from a week to ten days.

This is in striking contrast to my experience with ureteral ligation in animals. While I have seen no significant effect upon the mate of a kidney whose ureter is blocked, except for slight rise of blood nitrogen, I have, on the

other hand, never seen an animal with the two ureters simultaneously ligated which did not die within four to five days. The kidney in almost 50 per cent of such experiments showed the most extensive extravasation of blood throughout the organ as well as under the true capsule and often out into the fatty capsule with extensive areas of necrosis throughout the organ.

The patient, on whom my experimental work on ureteral ligation was stimulated, had gone eight days with complete ureteral block from ligature and had shown not the slightest uremia until the seventh day.

The symptoms of this condition may be classified into three stages: (1) The premonitory. (2) The tolerant. (3) The uremic.

The premonitory stage is characterized by colic, which may be either a severe typical renal colic, or a slight ache in one or both kidneys. There are instances, however, of complete anuria, such as cases cited in which there have been no symptoms referable to either kidney—a silent block. The colic, which is usually a typical renal colic, gives the index to the kidney involved and may last from a few hours to a few days and then pass into the second stage, the tolerant stage.

The one and only characteristic symptom is anuria. The patient ceases to void any urine and the catheter finds an empty bladder, or practically so. At times the anuria runs a remittent course and there may be sudden voiding of a fair amount of urine, a condition creative of false hope both to the surgeon and family since a repetition of complete anuria is imminent.

Keyes has so aptly described this stage that I shall quote him: "No more striking contrast could well be imagined than that presented by calculus anuria; on the one hand the grave renal lesion, the absolute retention, the swift culminating character of the uremic period soon to follow; and, on the other hand, the complete absence of symptoms local or general. The patient seems well, eats and sleeps as usual, the pain has passed and discomforts are insignificant and all the while there is brewing within him a crisis swift and terrible."

This paragraph concisely and exactly describes the condition of my patient in whom both ureters were ligated, and one of the clinical cases. My other five patients have run a somewhat different course. They have all been quite ill from the very beginning of their anuria. They have all had renal infections and this, I would take it, has been responsible for their rapid fulminating symptomatology. Infection with its attendant destruction of the secretory ability of the kidney precipitates toxemia and uremia.

It is quite striking how these typical anurics, who are apparently so well, can carry high nitrogenous retentions in the blood stream, whereas such retentions under ordinary conditions, if acute, would be productive of immediate uremia. Cases are reported where the nitrogen was over 150 mgms. to the 100 c.c. without uremic manifestations.

The border line between this zone of apparent safety and extreme danger is hard to foresee and the patient may suddenly pass from one to the other without signal. The whole scene is then changed and yet the background appears the same.

Treatment—The successful treatment of calculus anuria depends, as in other urological conditions, upon accuracy in diagnosis. The surgeon must, in the first place, determine the location, size and condition of the obstructing calculus by thorough cystoscopic and radiological study. Exploratory surgery on such patients is even more to be condemned than on the average renal condition. The mere taking of X-ray pictures and finding the unilateral calculus is entirely inadequate since the other kidney which may be silently diseased and completely destroyed, or may be implicated with an acute pyelonephritis with septic retention, the relief of which is paramount for ultimate cure.

Two of my patients illustrate this point most admirably. The stone was blocking one ureter and the products of an acute secondary pyelonephritis completely blocked the other one. The kidney blocked by stone in each instance was almost completely destroyed and its removal by surgery would have afforded no assurance of cure or relief of anuria. Indeed, in all probability it would have been responsible for mortality. Ureter catheter drainage of both kidneys, particularly the more normal kidney, saved the lives of these patients. In both instances we were fortunate enough to unblock each kidney, relieve the individuals of septic retentions and make surgery to the calculus kidney safe at a later date.

Two other cases with completely destroyed right kidneys and the ureter on the other side blocked by calculus were extremely ill patients. One had gone over 48 hours completely anuric and was at this early period showing evidence of a progressively intense uremia with delirium, an enormous abdominal distention, incessant vomiting and every suggestive evidence of an acute peritonitis. His kidney almost completely filled his whole left side, a very enormous retention. X-ray was negative.

Ureter catheter passed into the ureter, blocked about one inch beyond the bladder, finally slipped through and drained over 12 ounces of retention. The catheter was left in

place for several days and the kidney promptly resumed function and within the first 12 hours it secreted 1200 c.c. of urine. The blood nitrogen which had been 167, dropped within 25 hours to 67 and normal within the next 24 hours. Small calculus was passed in three days.

The other patient had been anuric for six days. He was quite ill, running high fever from large left kidney retention, but was not uremic. A large stone was found in the pelvic ureter and the ureter catheter passed by and relieved this retention. It was left in place for drainage for several days, being irrigated frequently. Patient promptly responded. Catheter was reinserted. When patient's general condition became fit the calculus was removed by ureterotomy. At a later date his right kidney, which had been destroyed by a calculus pyelonephritis was removed. Uneventful recovery.

Patient No. 5 had an acutely infected kidney removed without investigation one year previously. When I saw her there had been complete retention for two days in her only kidney, the outlet being blocked by a wedge shaped stone with several other large stones in the pelvis. She had become very uremic with high blood nitrogen. We were fortunate enough to relieve the retention with ureter catheter. She was kept on ureter catheter drainage for several weeks and this apparently dead kidney, which had been the primary seat of infection to its mate, which had unfortunately been removed, improved sufficiently in function to permit a rapid pyelotomy. Recovery.

Another patient, an elderly woman, with a small calculus blocking the lower left ureter. A large congenital hydronephrosis had practically destroyed the right kidney. Anuria three days, patient not uremic. The pain which had ushered in the attack had subsided and her condition seemed quite good. Obstruction relieved by ureter catheter, stone passed later. Right kidney repeatedly drained by ureter catheter. Patient would never submit to its removal.

In these six cases we were successful in unblocking the kidney by the ureter catheter. The extreme importance of this procedure cannot be too strongly commended in the treatment of calculus anuria.

The treatment has been classified as expectant and surgical. Such a classification does not seem tenable at the present day. I feel that the two methods should be cystoscopic and surgical.

Expectant treatment surely has no place. While a certain percentage of patients pass the calculus, the mortality is so high that watchful waiting is unjustifiable.

Morris' percentage of 48 patients treated by

expectant means gives mortality of 79 per cent. The apparent good general condition of the individual should not deceive the surgeon. Faced with anuria regardless of its duration the ureter catheter should be immediately tried. If one is successful in unblocking and the stone is small enough for passage the patient may be manipulated until the stone is dislodged and passed provided each attempt unblocks the kidney. Should one be not successful in dislodging the stone and relieving the renal retention, surgery should be done early, certainly by the fourth day, regardless of how good the general condition of the patient may be.

In case of a complete impassable block on one side and an infected kidney on the other, attention to drainage of the infected kidney may tide the patient over the anuria, but here one has to be particularly careful.

Large stones which offer no chance of passage and are definitely surgical can be removed immediately if the condition of the patient justifies it; however, under any condition I feel that an attempt should be made to pass the block and relieve the retention by the catheter. If successful, the risk is minimized. If unsuccessful, it is not jeopardized.

Even in early statistics, before our present precise methods of urological therapy were at hand, the operative methods gave a much better mortality chance than the expectant. Morris' statistics show 51 per cent recovery.

Recent case reports show a very low mortality rate. I had no mortality in my six cases although they were extremely ill. It seems reasonable then that the following conclusions are manifest.

CONCLUSION.

1. Expectant treatment should have a meager place, if any.

2. With proper cystoscopic manipulations a fair number of stones may be removed and hence anuria completely relieved. In other instances, by such methods, anuria being temporarily relieved, patients may be made safer surgical risks.

3. In case of inability successfully and promptly to unblock the obstruction by cystoscopic technique, the surgeon with judgment will not be deceived by the patient's apparently safe condition, but will promptly remove the stone by surgery, its nature depending upon the location and character of the stone, just as in other calculus conditions of the kidney and ureter.

Under such regime one should expect a very low death rate in calculus anuria.

University Club Building.

ESSENTIAL HYPERTENSION: PRIMARY HYPERADRENALISM

A. SOPHIAN, M.D.

KANSAS CITY, MO.

The purpose of this communication is to establish three facts; first, that essential hypertension is an endocrin disease. Second, that it consists of two different stages; the benign or quiescent and the malignant or fulminating stage. Third, that malignant hypertension is caused by a complicating hyperthyroidism.

Essential hypertension was first recognized and classified as a distinct disease entity by Sir Clifford Allbutt, who called it "Essential Hyperpiesis," a disease characterized by permanently increased blood pressure without demonstrable cause. Most observers have classified this disease as associated with cardiovascular-renal disease. It is true that pathologic involvement of the cardiovascular-renal system often accompanies this disease, but it is also very obvious that such changes are secondary to the hypertension.

In many cases all evidence of organic disease may be absent for years. In this connection is of interest the conclusions of J. L. Williams, based on a study of fifty-five cases of hypertension, showing little or no evidence of renal disease, as follows: That arterial hypertension, if uncomplicated by nephritis or cardiac decompensation, gives no functional evidence of kidney insufficiency and that the presence of arterial hypertension alone does not justify the diagnosis of chronic nephritis.

Some writers have classified this disease as benign hypertension, and others as malignant hypertension. This disease is both benign and malignant each representing different stages of the same disease.

It has been suggested by many that this disease is the result of over-activity of the suprarenal gland. The studies of Hitzengerger and Reichter-Quittner tend to confirm this suggestion. They note the association of hyperglycemia in primary and secondary hypertension, differing from that seen in diabetes in that it is due to an over-production of sugar, and not due to a disturbance of sugar assimilation. When hypertension is associated with diabetes the hyperglycemia is excessive as compared to the sugar excretion. They also note the frequent increase of blood urea in these cases, an increase in their opinion not due to retention of urea. They call attention to the similarity of symptoms of hypertension, hyperglycemia and increase in blood urea to the symptoms noted after the experimental injection of adrenalin in animals, suggesting that the clinical syndrome is also due to an increased secretion of adrenalin. We often hear patients say, "high

blood pressure runs in the family." This is actually so. Every busy internist has records of many such instances. The writer has in mind one instance of three brothers, one with a son of thirty-five, all similarly affected, and another striking example of a mother and young son of eleven. May not this disease of suggestive primary adrenal gland involvement be another instance of familial endocrin dyscrasia?

Many observers have called attention to the hypertension of the menopause. It is also well known that many women suffer from symptoms of ovarian endocrin dyscrasia long before the actual menopause. This often follows pelvic disease and quite frequently occurs from purely functional origin. The symptoms of ovarian dyscrasia, often accompanied by a subthyroid state, can readily be clinically classified. A large percentage of cases of primary essential hypertension are seen in this class of patients. It is much more difficult to identify positively a clinical picture in men similar to that seen in women, and yet such condition probably affecting the sex glands must surely exist. Careful examination in a fair percentage of cases enables one to detect slight constitutional evidence of the better known pituitary or thyroid disturbances. W. C. Alvarez analyzed the blood pressure records of 8,737 University of California students and 1,000 office patients and notes that the average figures indicate that high blood pressure occurs earlier and to a greater degree in young men than in young women, but that at the age of 40 the averages for the women equals and then passes those for the men. Apparently changes in gonad secretion influence blood pressure more than the effects of environment and the "strenuous life." The manifestations of hypertension seem to be suppressed in women as long as the ovaries function actively. He suggests that hereditary predisposition is probably the most important etiologic factor.

Other observers have suggested a causal relationship in this disease to thyroid activity. Henry A. Christian observes that none of the clinical manifestations of hyperthyroidism are present, nor is there increase of basal metabolism, stating that the basal metabolic rate was either normal or subnormal. This observation is only correct in so far as it applies to the benign type of this disease. The malignant type shows all clinical manifestations of hyperthyroidism with high, at times very high, basal metabolism. The writer hopes in this communication to call attention particularly to the uniform presence of thyrotoxicosis, varying from the mild to the most fatal degree, as being altogether responsible for the malignant stage of essential hypertension.

The age incidence in men is about the same as in women, averaging from about 35 to 55 years. This disease, however, is seen occasionally in very young children.

Much has been written about the relationship of focal infection to hypertension. Certainly the clinical course and failure of therapeutic response clearly establish that focal infection is only an intercurrent disturbing condition. Unnecessary radical dental and nose and throat work, on account of the pronounced effect of purely nervous influence in these patients, is seriously objectionable. The reverse may properly be said about true primary cardiovascular-renal disease if the clinical condition justifies interference.

Irregular habits as to food, drink, work and domestic or business worries are important factors. Excessive use of tobacco and alcohol play some role. Lues, while present in a number of cases, apparently plays little part.

This disease is particularly serious on account of its malignancy and our utter helplessness to correct it. The great difference in prognosis and probable etiology between this disease and the primary cardiovascular-renal disease with resulting hypertension, renders a correct classification imperative. When cardiovascular-renal disease has sufficiently advanced to produce a high and persistent hypertension the remaining span of life is very limited, a matter of months. In essential hypertension the remaining span of life is very uncertain; in the most malignant forms averaging one to four years, and in the quiescent benign forms, averaging many years.

Fifteen classical cases of the writer's series have been critically analyzed for this study; of these, four malignant cases averaged fourteen months to four years. Of eleven benign cases, one died after an uncertain period of essential high blood pressure of at least five years, later complicated by cardiovascular-renal complications. The others are all alive after periods of five years to seventeen years from the probable inception of the disease.

There are two distinct stages of this disease, the benign and the malignant stage. The symptom complex early in the benign stage is fairly uniform. Headache is often violent, constant, referred to the whole head, and is accompanied by soreness of the scalp, fullness of the head, vertigo and nausea with vomiting, often projectile in character and independent of food intake. This and the distracting insomnia frequently are causative of chronic aspirin and coal tar habits. Dyspnea is observed at first only on active exertion. Patients may go for years with relatively few complaints and were it not for the fact that their attention had been called to hypertension would consider them-

selves in perfect condition. It is curious to observe the complete sense of well being in the face of hypertension up to 300 systolic pressure. Patients will often say that they can detect an increase in their pressure by their symptoms of headache, fullness, or the other symptoms previously mentioned. They are much more often wrong than right, however. The thin, undernourished anemic individual is just as often seen as the plethoric, overfed high liver.

Physical examination is entirely negative for evidence of cardiovascular-renal disease. X-ray studies by seven foot cardiac plates fail to show enlargement of the heart, or the aortic change so often demonstrable early in arteriosclerosis long before other cardiovascular-renal symptoms develop. Focal infection is not infrequent. Often in women definite clinical evidence of ovarian endocrin dyscrasia can be established; the presence of flushes, inexplicable nervousness, menstrual disturbance, unusual increase in weight, exhaustion, tired feeling. In some can be demonstrated evidence of pelvic disease, possibly quiescent; in others the history of ovarian operation and in others the frank history of approaching menopause.

Basal metabolic rate is either normal or definitely subnormal, and persists so except during improvement, whether resulting from specific gland therapy or spontaneously. Other laboratory tests are negative entirely and without special significance. Secondary anemia is present in the thin undernourished, and polycythemia in the plethoric. The urine is usually entirely negative or may show transient traces of albumen. Blood chemistry and renal function tests are negative. The subsequent clinical course consists either of a very gradual or a more rapid development of a true cardiovascular-renal syndrome resulting from the hypertension or a sudden transition of the benign, quiescent stage to the malignant toxic stage.

TYPICAL CASE HISTORY

Benign Hypertension With Subthyroid and Subovarian State.—Mrs. L., age 47, three grown children. Has been under my care for four years. Chief complaint for the past 20 years, severe, frequent, prostrating headaches, accompanied by vertigo, vomiting; dyspnea on exertion in recent years. In the last few years insomnia pronounced at irregular periods. Has frequent hot flashes, very nervous, tires easily.

Menstrual History.—Last two years menses much more scanty and misses quite frequently. Has been growing somewhat fleshier. Fifteen years ago physician called patient's attention to her having a high blood pressure. Many physicians in repeated examinations have likewise found the pressure elevated, at times over 200.

Physical examination shows a somewhat adipose, florid woman giving appearance of good health. Blood pressure during the last four years has generally aver-

aged about 190/90, at times, under treatment, dropping to 160/90.

Examination negative except for some focal infection in the teeth and deviation of the septum found at the original examination, and immediately corrected, without affecting the headaches. Many urine analyses negative except for two attacks in the past year of hematuria. This was carefully analyzed by the usual methods and was found to be apparently due to a rupture of sclerosed renal vessels.

Blood chemistry negative, Wassermann negative.

Basal metabolism minus 17 when first taken, later became normal and on subsequent examinations minus 15.

General and medicinal measures all failed till the administration of ovarian extract by hypodermic, daily for two weeks, later followed by the oral administration of ovarian extract gr. 5 twice daily, these treatments being given every few months for periods of a month to two months.

Thyroid extract gr. 1/4, cautiously administered has also been of value. With this treatment the headaches have been markedly benefited and the blood pressure for temporary periods at least partly reduced for several months at a time, the pressure ranging from 140 to 150 systolic. The flashes and nervous symptoms have been controlled and the patient feels stronger and generally better than in years.

The malignant type or stage of hypertension presents a fulminating picture with toxic symptoms predominating. Headache is often very severe and restlessness with insomnia pronounced. Patients are very nervous, tremulous, complain of profuse, uncontrollable sweating and steadily increasing weakness and loss of weight. Palpitation and dyspnea are marked and the patient often complains of a disturbing sensation of pulsation in the neck and head. Examination shows a pinched, anxious, very restless and nervous patient. A dusky pallor is often seen; the eyes show a varying degree of prominence, up to definite exophthalmus. The heart is enlarged, tachycardia of mild to severe degree is present and loud systolic murmurs may be heard all over the precordium and transmitted to the vessels of the neck. Hypertension of varying degree with high relative diastolic pressure is present but not essentially different from that seen in the quiescent stage. Pronounced tremor of the hands is present and the extremities are usually cold, clammy, and perspiring. There may be irregular temperature. The reader will readily recognize the symptoms as that of thyrotoxicosis or hyperthyroidism. Basal metabolism is high; in repeated tests of the writer's cases so studied, basal metabolism ranged from plus 35 to plus 87. Some of the cases studied showed thyroid enlargement but none to a marked degree. Other laboratory tests are not specific; they show nitrogen retention, often a leucocytosis and the presence of albumen, pus, casts and red blood cells in varying degree, altogether proportional to the degree of toxic symptoms or complicating cardiovascular-renal disease. One patient showed persistent hyper-

glycemia, corresponding to the observations of the Hitzenger and Reichter-Quittner. As the clinical condition improves the toxic symptoms disappear, the laboratory findings return to the normal, basal metabolism rate is lowered and the clinical picture reverts to that seen in the quiescent stage; with the difference, however, that relapse occurs sooner or later and the span of life is usually very limited.

The obvious similarity between the symptoms described and those seen in frank primary hyperthyroidism renders a differential diagnosis important, especially since chronic hyperthyroidism is often accompanied by considerable degree of cardiac hypertrophy and hypertension. In essential hypertension, high blood pressure is present often for many months before the malignant stage develops; and during the benign stage basal metabolism is normal or low and symptoms of hyperthyroidism are absent. Likewise as the patient improves or recovers from the toxic malignant stage symptoms of hyperthyroidism disappear, basal metabolism falls but hypertension persists. The pronounced or large goiter and the striking exophthalmus so characteristic of primary hyperthyroidism are rarely seen in essential hypertension. Thus in primary hypertension, high blood pressure precedes and follows the hyperthyroid stage; and in primary hyperthyroidism goiter usually precedes the toxic stage, and marked goiter and exophthalmus are outstanding features of the toxic stage.

TYPICAL CASE RECORD

Malignant Hypertension With Thyrotoxicosis.—Mrs. T., age 58 years. Five grown children; two miscarriages at three and six months many years ago.

Three years ago consulted a physician on account of dyspnea, vertigo and uncomfortable epigastric pulsation. Patient was told she had high blood pressure. Continued in good condition till two years ago, when she became very nervous, tremulous, began to lose rapidly in weight, losing a total of 85 pounds in the last year and a half. Sweating was marked, also palpitation and dyspnea. Epigastric soreness and pulsation were pronounced. Slight edema of ankles after being on feet. Menopause five years ago. One year ago was told she had diabetes, but doctor since has allowed a liberal diet.

Physical Examination.—A very nervous woman, showing evidence of considerable loss of weight. Moderate exophthalmus, marked pulsation in vessels of neck. Skin smooth and velvety. Marked tremor. Thyroid left lobe palpable. Tachycardia 126. Epigastric abdominal aorta pulsation marked; aortic second sound accentuated but normal otherwise. Blood pressure 196/100. Superficial vessels, no evidence of sclerosis. Liver not enlarged. Examination negative otherwise. Urinalysis, blood chemistry, Wassermann negative. Blood sugar at first 160 mg. Basal metabolism plus 87. X-ray, seven foot cardiac plate, slight enlargement of heart and aorta.

Patient was put to bed at rest. Diet restricted in protein and high in calories. Water forced. Ice bag to heart. Bromides and digitalis and alkalies administered and ovarian extract, an ampoule daily

by hypodermic injection. Lugol's solution as suggested by Boothby in hyperthyroidism, was administered 10 minims daily.

Carbohydrate tolerance tests were made to determine significance of hyperglycemia. On 250 g. carbohydrates no glycosuria developed; apparently the hyperglycemia was not due to any disturbance of assimilation of carbohydrates. In ten days pulse was down to 90, all nervous symptoms much better; eating better and feeling well. Basal metabolism plus 37.

It was planned to use thyroid X-ray therapy if prompt improvement did not result. Up to the present writing however this has not been necessary.

Analysis.—Note the history of high blood pressure for an uncertain period preceding the development of the acute toxic symptoms. Note the hyperglycemia and rapid improvement.

In another patient of the writer's series, a physician's wife, benign hypertension was present four years before toxic symptoms developed. The exophthalmus is never as pronounced nor has there been the extreme thyroid enlargement encountered in the primary hyperthyroidism.

Treatment depends on the type or stage of the disease. In the benign type the symptomatic treatment is concerned first with the correction of those etiologic factors in the habits of life that are most flagrantly abused. Regulation of work, rest and play, not for two weeks a year during vacation period, but regularly, is most important. The undernourished should be fed up and the water intake increased; the plethoric dieted.

Elimination should be watched and a system of regular out-of-door active but not violent exercise provided; walking, golf and swimming are ideal. Exercises are of value in this stage but contraindicated in the malignant. Focal infection or other intercurrent disease should of course be treated. A thorough complete examination of the patient is necessary and corrective treatment instituted as necessary. It is especially important that the patient forget that he has high blood pressure and should not be reminded of it.

Special treatment is sometimes very effective, though not in a permanent way; therefore, the periodic control of the patient is most necessary.

In the subthyroid state with low basal metabolism cautious administration of extract of thyroid is advisable and sometimes most effective. In the subovarian state, ovarian extract or lutein by hypodermic gives striking temporary results at times. The administration of ovarian extract by mouth at irregular periods is sometimes as effective as the hypodermic treatment.

The malignant form of hypertension in every respect therapeutically responds best to the treatment employed for thyrotoxicosis. Rest in bed is the most important measure of all.

Restriction of protein intake is necessary; only sufficient amount should be given to maintain nitrogen balance; similarly the use of high caloric diet is necessary in direct contradistinction to the low caloric diet for cardiovascular-renal disease. Water should be taken freely. F. M. Allen and J. W. Sherrill reported in their analysis of 180 severe cases of hypertension treated by close restriction of the sodium chloride intake for a period of from one month to three years, that those cases of essential hypertension with high plasma chlorid have a better prognosis than those with low chloride content, the salt tolerance being determined in each case. Free use of bromide is valuable as is judicious alkalization. Bleeding in the plethoric type helps, more for cardiac relief; the same is true of the nitrites. The much lauded high frequency treatment is of no value in the writer's experience. Digitalis is a most useful drug. The same objection to the use of large doses of iodide exist here as in classical thyrotoxicosis. Small doses, of 10 minims of Lugol's solution daily, however, as recommended by Boothby in marked hyperthyroidism are apparently of benefit. X-ray thyroid therapy gave considerable response in the only case so treated. This was accompanied by reduction of basal metabolism. This as well as the use of surgical procedure, especially thyroid ligation, should have most serious consideration in this most fatal form of malignant hyperthyroidism. Observations on thyroid ligation are now being made.

405 Woldheim Bldg.

THE EFFECT OF ARSPHENAMINE ON THE COAGULABILITY OF BLOOD

GLOVER H. COPHER, M.D.

ST. LOUIS.

From the Department of Surgery, Washington University Medical School and Barnes Hospital

Attention was called to the anticoagulating action of arsenobenzol upon blood *in vitro* and *in vivo* by Flandin and Tzanck¹ in 1921. They concluded that coagulation is prevented by the action of the arsenobenzol on thrombin or its precursors. In a later communication² they describe a new successful method of blood transfusion by utilizing the anticoagulating property of arsenobenzol. The main points of their work upon the subject have been summarized³ and are essentially as follows: (a) Arsenobenzol has an anticoagulating effect upon blood *in vitro* and *in vivo*. Blood collected in a container which has been moistened with an arsenobenzol solution will remain uncoagulated. Blood from a patient who has received an intravenous injection of arsenobenzol will

have its coagulation time delayed from thirty minutes to twenty-four hours or longer, the phenomenon slowly passing away. (b) The delay in coagulation following intravenous injection of arsenobenzol does not depend upon the quantity injected or the number of the injections. This effect upon blood is not brought about by action on the corpuscles or the platelets. (c) The anticoagulating action of arsenobenzol may be used in an attempt to prevent reactions following intravenous injection. Blood is mixed with arsenobenzol as it is withdrawn from the patient and reinjected intravenously. This method seemingly reduces the percentages of certain types of reactions. (d) Blood from a donor may be withdrawn by a puncture of a vein into a flask containing a small quantity of arsenobenzol solution and then injected in its non-coagulated state into the vein of the recipient by means of syringes. The authors prefer this drug to sodium citrate to prevent coagulation in blood transfusion.

The preceding observations seemed to be of considerable clinical importance, especially to the surgeon and the obstetrician, in view of the almost universal use of the arsenobenzenes and made the repetition of their work seem desirable. The clotting time of ten patients with the diagnosis of syphilis in the Barnes Hospital and the Washington University Dispensary was determined before and after the intravenous injection of arspenamine. Four of these patients had not had previous administration of arsenic compounds. Six of the patients had previous doses of arspenamine varying from one to six times. On one-half of the patients the clotting time of the blood was determined by allowing two large drops of blood to flow from a puncture wound of the finger or of the ear upon a warm glass slide and by passing a pin through the blood at one minute intervals thereafter. The time for a clot to form and adhere to the pin point was taken as the clotting time. On the other half of the patients the clotting time was taken by withdrawing blood from a vein into a small, clean test tube and taking the end point at the time when the blood would not flow out of the inverted tube. The dose of arspenamine varied from .3 grams to .6 grams. In none of the ten cases were there any appreciable changes in the clotting time immediately after or as long as twenty-four hours after the injection, as determined by the preceding technics.

Using the same arsenic preparation in the laboratory, it was found that the coagulation of dog's blood *in vitro* could be prevented by a minimum dilution of approximately .1 per cent arspenamine. Only two *in vivo* experiments were done on dogs, so no conclusion is drawn from these. The intravenous dose for the first dog was too large and its injection caused

death, but the clotting time was definitely delayed in the second dog.

Since making the preceding observations, Oliver and Douglas⁴ have made an exhaustive study of the effect of large doses of arspenamine on blood coagulability. They concluded that arspenamine produces incoagulability of blood in vitro and in vivo but that "in its therapeutic use, the concentration needed to produce definite changes is never reached." They found that the anticoagulating action is chiefly on fibrinogen and could not demonstrate on action on thrombin.

Anwyl-Davies and Mellanby⁵ have also made a study of the anticoagulating action of arsenobenzol on blood. They too find that the addition of .1 per cent arsenobenzol (neosalvarsan, sulfarsenol, novarsenobillon) to blood prevents its coagulation in vitro and in vivo. They find this inhibition of coagulation due to the action of the arsenobenzols on fibrinogen, as had Oliver and Douglass, and that the effect is over within an hour. This rapid action can possibly be explained by the rapid passage of arspenamine from the blood into the tissues, as determined by Clausen and Jeans⁶. The latter found that after intravenous injections in children arspenamine rapidly disappeared from the blood, only 10 per cent remaining at the end of one hour. Anwyl-Davies and Mellanby further found that arsenobenzol intravenously injected in concentrations as used therapeutically has no appreciable effect on the coagulability of blood, since this concentration or quantity is far below the required amount.

I have not used arspenamine as an anticoagulant for the transfusion of blood. However, it would seem to be a practical procedure.

CONCLUSION.

Blood coagulability is not appreciably changed by the ordinary dose of arspenamine intravenously administered.

REFERENCES

1. Flandin, Ch., and Tzanck, A.: Action Anti-Coagulante des Injections Intra-veineuses D'Arsenobenzenes. Compt. Rendus Soc. de Biol. vol. 84, page 117, January 22, 1921.
2. Flandin, Ch., Tzanck, A., et Roberti: Un Nouveau Procédé de Transfusion du Sang par Utilisation des Propriétés Anti-coagulantes des Arsenobenzenes. Bulletins et Memoirs de la Société Médicale des Hôpitaux, Vol. 45, page 3, October 21, 1921.
3. Flandin, Ch., and Tzanck, A.: The Anti-Coagulating Properties of the Arsenobenzols. Lancet, Vol. 2, page 1177, December 2, 1922.
4. Oliver, Jean and Douglas, Ethel: Biologic Reactions of Arspenamine. IV. The Effect of Large Doses on the Coagulability of the Blood. Archives of Dermatology and Syphilology, Vol. 7, page 573, May, 1923.
5. Anwyl-Davies, T., and Mellanby, J.: Anti-Coagulating Action of Arsenobenzols on Blood. Lancet, Vol. 2, page 555, September 15, 1923.
6. Clausen, S. W., and Jeans, P. C.: The Distribution and Secretion of Arsenic after Intravenous Administration of Arspenamine in Children. American Journ. Syphilis, Vol. 6, page 556, 1922.

Euclid and Kingshighway.

A METHOD OF IMPLANTING THE BONE GRAFT IN THE SPINE*

S. ASHBY GRANTHAM, M.D.

JOPLIN, MO.

The attempt to correct the deformities of the spine and to alleviate or cure the diseases leading thereto presents an interesting picture of the development of one branch of surgical art.

It is a far cry from the jury mast and supporting plaster jacket of Sayre to the autoplasmic bone graft of Albee. Yet their central thought is the same—the separation and rest of the diseased bones. The cast found its justification in the relief it afforded. The cure was uncertain because the fixation was not absolute. This was recognized and Lange, in 1910, when metal splints became quite the fashion in the repair of bone, suggested the use of metal bars for the fixation.

Hibbs in 1911 proposed to section the posterior spinous processes in such a manner as



Fig. 1. Tunneling osteotome. Profile.

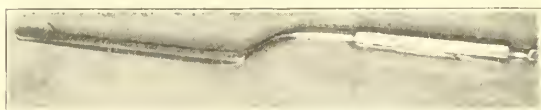


Fig. 2. Tunneling osteotome. Turned to show the grooved ventral surface.

to cause their fusion into a solid supporting mass on the posterior aspect of the vertebrae.

Don, in 1914, used a strip of rib to fix the cervical vertebrae, anchoring the upper end under the base of the spine of the axis, and the lower end to the spine of the *vertebra prominens*.

Albee, the same year, used the autoplasmic graft by splitting the spinous processes and burying the graft in the trough so created, lacing the fascia over all and fixing the graft with kangaroo tendon.

Halstead, in 1915, using the same method of exposure, cross sectioned the posterior processes near their bases and planted his graft between the separated surfaces, lacing the fascia into place with kangaroo tendon.

The method which I propose and have found most useful is as follows: A one-inch incision is made transversely just below the spinous process selected by the operator (usually the second below the affected vertebra) extending

*Read at the sixty-sixth annual meeting, Missouri State Medical Association, Joplin, May 8, 9, 10, 1923.

through the skin, subcutaneous fat, lumbo-dorsal fascia and supraspinous ligament, to the level at which the laminae unite to form the base of the spinous process. An osteotome, the blade grooved on its ventral surface and shaped to conform to the deformity presenting after all possible correction has been secured, is introduced to the level of the base of the spinous process, held so as to cut the process at its base parallel to the spinal cord. One by one the processes are sheared off until a sufficient number are prepared—usually two above and two below the affected vertebra.

Into the tunnel so created, a graft is introduced, guided to its resting place by the osteotome whose ventral surface is a grooved director. The osteotome is withdrawn, leaving the graft *in situ*.

When a straight graft is desirable, a straight instrument and a tibial graft are used; when a curved graft meets the requirements, as in the dorsal and lumbo-sacral regions, a curved instrument and a rib suffice.

The graft is placed in *direct bony contact*; is held *in situ* by the *uncut* lumbo-dorsal fascia; is *supported laterally* by the muscles of the back. No *foreign substance* is used for the fixation of the graft so placed. None of us feels so secure of his technic or his material as to place an unnecessary ligature or suture in a wound.

The small incision, the safety of a small wound as compared with a large one, the slight transverse scar as compared with the unsightly scars necessary in an Albee or a Hibbs, the increased security of the fixation and the brief time required in the performance of this simple operation, make it well worth consideration.

DISCUSSION

DR. M. L. KLINEFELTER, St. Louis: I saw Dr. Grantham do his operation yesterday morning. He certainly does it very successfully. It almost approaches the spectacular—the very little time required for him to do his operation, and the small wound he makes—and he tells me he has had splendid results. In his hands no doubt it is a success. In my hands I would be afraid.

In the first place, he spoke of correcting the deformity while the patient is under the anesthetic. Personally, I have not the courage to do that. I have not been able to correct the deformity by any mild measures such as a plaster cast or frame. I do not believe I have corrected a deformity, in any case of Potts' disease with destruction and I have checked my results with lateral-view X-ray plates.

It is true we can take a patient and place him on a frame or forcefully apply casts and make the back apparently straight. But if you take the lateral view X-ray plates you will find you have increased the space between the vertebrae above and below the deformity, rather than separating the vertebrae involved in the lesion. I think in most cases it is better for the patient that this has occurred.

So far as my experience goes in these cases, the only way they can get well is by contact. I think

it is quite probable that if most of us were to correct the deformity forcefully we would stir up trouble too frequently.

As to this method of applying the graft, certainly here is another word of caution, I believe, and that is the selection of the cases. I think it is a serious question as to whether children should have any sort of immobilizing operation. I have not made up my mind to do any after having observed a great many done by others. I think there are possibly indications in some exceptional cases.

Then if we are going to operate, the principal hazard is in cutting too deep. Certainly there have been some disastrous results from bad chisels or cutting too deep along the side of the spinous process by the direct vision method.

This is my point: In his hands he has done a great many, and if the patients have done well, I think it is a splendid operation for him. For most of us I think there is great danger of cutting too deep and stirring up trouble.

Then comes the third important point in all operative cases: the after treatment. The after treatment in these operative cases must be carried out just as carefully as the operation is done, particularly in children. Certainly a bone graft—even a very huge one—is not going to cure a Potts' disease, as I see it. Then it requires considerable time. I think the patients should be kept on a frame, or better, in a double shell made of plaster of Paris, so that they can be turned on their face and back at least six or eight weeks—I prefer ten or more. I certainly think a child should be properly protected for a year or more if the case is gotten fairly early. I think it takes two or three years to correct a case of Potts' disease in a child.

In an adult we are dealing with a different problem. I think practically all adults who have Potts' disease should be operated, and probably gotten up in the same length of time and wear a brace for a long time.

Dr. Albee has greater confidence in the curative properties of the bone graft than some of the rest of us. He relieves a patient from braces comparatively early. In my opinion, there is too much at stake to presume to cure a Potts' disease with bone graft alone.

Dr. Grantham, in closing: Dr. Klinefelter's criticism is just and timely. There is no doubt that this method is simpler, easier, safer and more certain of results, in the proper hands. In the hands of one not possessed of the necessary *tactus cruditus*, it is dangerous. The open operation will probably be the method of choice with such. It is probable that, unless the operator has the mechanical skill to make his own tool, he would do well to adhere to the method he understands.

As to the straightening of a kyphotic spine, I have found it possible to accomplish much in all young cases and something in all recent cases in adults. In one case of extreme curvature I found that by posturing the patient over pillows in bed I was able to secure a decided improvement in the curvature, an improvement which continued for some time after the operation, due to the continued position and the *pull of the graft* placed under the *uncut* dorsal fascia. In this case two and one-half inches were added to the height of the young man. This increased height was certainly not secured by producing additional curves in the spine.

Certainly a bone graft does not cure tuberculosis, but Nature does, if the spine is properly immobilized, which the bone graft, properly inserted, does.

It is the immediate diseased portion of the skeleton which requires fixation, not the whole body, and it follows that a method which permits of early release

from hampering splints, casts, frames or whatnot, by affording general exercise, healthful living, and happiness, furnishes an ally in the battle with the disease not to be lightly ignored. Rest, of course, is essential to the proper handling of all acute infections; but proper function is necessary for clearing up such cases as present paralysis from pachymeningitis. Personally I prefer for my patients to play in the sun.

DIARRHEA OF INFANTS AND CHILDREN*

W. E. BESS, M.D.

SEDALIA, MO.

Diarrhea is an abnormal condition of the bowels accompanied by frequent evacuations. The term is used to cover all conditions attended by frequent loose stools.

There has been no satisfactory classification of diarrheas. In a general way there have been two schools, one composed of those who consider that all diarrheas are due to bacterial infections and the other comprised of those who consider that all diarrheas are chemical, due to the direct action of sugar, salts, or fat upon the digestive apparatus and upon metabolism. It is evident that neither school is all in the wrong, nor is either school all in the right. The classification which is given below is one which embraces both teachings.

They may be divided into three great classes, namely: Intestinal indigestion, infectious diarrhea and miscellaneous. By this classification intestinal indigestion is the etiologic factor in the largest class of diarrheas.

The subdivisions under intestinal indigestion are: Simple intestinal indigestion from fat, sugar, proteid, starch. Underfeeding, overfeeding, recurrent diarrhea due to lowered tolerance that cannot be raised by the usual methods above a point where a proper and continuous gain in weight may be made.

These subdivisions are made upon the basis of the previous foods administered. This is open to the objection that it does not seem to be a scientific classification.

The Finkelstein school called all of the classes of intestinal indigestion and the milder forms of fermentative diarrhea, dyspepsia. But this is not a good term to use because in this country the Finkelstein's word dyspepsia is used loosely by the laity to designate all forms of gastric indigestion.

Infectious diarrheas are most often seen in the summer or in warm weather. Infectious diarrhea may overlap with intestinal indigestive diarrhea since an infant with any form of indigestion is more susceptible to an infection and is consequently more liable to an infectious

diarrhea. The subdivisions under infectious diarrheas are, sugar or starch diarrhea, sugar intoxication, proteid diarrheas, mild types of infectious diarrheas, ileocolitis, acute infectious diarrhea and cholera infantum.

The subdivisions under miscellaneous diarrheas are, mechanical diarrhea, diarrhea from cathartic, marasmus, lost power of assimilation, decomposition, atrophy; other organic causes, namely, typhoid, amebic dysentery, tuberculosis, ulcer.

Simple intestinal indigestion is caused by feeding mixtures containing more fat, sugar, proteid or starch than the infant is capable of digesting, or by feeding these elements in a form that cannot be digested by the infant. Most infants with diarrhea due to intestinal indigestion have a combination of fat, sugar and proteid indigestion which was perhaps originally due to one of these elements only. For instance, a diarrhea which was originally caused by fat may have so lowered the digestive capacity of the intestines that the power to digest fat, sugar, proteid or starch is decreased. Often it is not possible to differentiate between fat, sugar, proteid, or starch diarrhea, nor is it necessary from the very practical standpoint of treatment, for by omitting the starch and artificial sugar altogether, boiling the milk to make the proteid more digestible and cutting the fat down to the amount contained in about one-third milk and two-thirds water (fat-free milk in the more severe types), the diarrhea may be overcome. Indigestion caused by fat is usually due to the use of top milk or cream.

In a normal stool there are three or four fat globules the size of pin heads which are white. Chemical test for fat globules: when osmic acid minimis 4 is put on the stools it turns the fat globules black. Two drops of irritalin put on the stools turns the fat globules red.

Underfeeding is usually brought about in the following manner: An infant having a diarrhea due to intestinal indigestion is wrongly treated by weakening the food, that is, giving a mixture containing less fat, a little less sugar and less proteid. This does not stop the diarrhea so the food value is again reduced. The weaker food is still undigested and the process of weakening is repeated until the infant is getting not nearly enough food to sustain it.

Overfeeding is easier to treat, particularly if it occurs in a well nourished infant. When occurring in poorly nourished infants the ease with which the disease is remedied will depend upon the severity of the diarrhea. This subdivision needs little explanation. It is a frequent occurrence to be called to see infants that are being fed much more food than they need and which, if reckoned in calories, would be found

*Read before the Benton County Medical Society, April 25, 1923.

to be many times the amount of food they actually require. There is the constant inclination to increase the food beyond an infant's needs in the enthusiasm to make a big gain in weight. This may bring about diarrhea with stools showing various degrees of intestinal indigestion.

Differential diagnosis of simple intestinal indigestion. The diagnosis of simple intestinal indigestion presents few difficulties. The onset is invariably gradual, the infant going from bad to worse on a feeding that it is unable to digest. There is no fever, in fact, a subnormal temperature is not uncommon in infants who are underfed or who are poorly nourished. During this period the weight is stationary or there is a gradual progressive loss. Occasionally the weight may show a slight increase, but a normal gain of from six to eight ounces a week is never possible where intestinal indigestion is marked. The cause may always be traced to a food which is unsuitable for the individual infant. The stools vary in number from two to ten or twelve a day and an examination of them may show many abnormalities. They may be yellow, green or brown in color. They may be watery or firm in consistency, but are rarely smooth and homogeneous. A smooth stool may at times show curds and a certain amount of mucus and is indicative of intestinal indigestion. The odor of the stool is either normal or sour-smelling. The reaction is not significant for it may be either acid or alkaline although it is more apt to be acid. Mucus is usually present; in fact if there is no mucus one may be certain that there is not much intestinal indigestion.

Blood is never present in the stools of intestinal indigestion unless it is due to some local condition found in the rectum or anus, such as a fissure or polypus. Curds are usually found in the stools of infants suffering from intestinal indigestion when milk has been given in the food. Infants who are being fed upon such foods as malted milk, Nestle's Food, or any foods given without milk, may have a marked attack of intestinal indigestion without showing curds in the stool.

Sugar intoxication. Finkelstein and his co-workers, Meyer and Leopold, have proved conclusively that milk sugar can of itself produce symptoms of intoxication by giving large amounts of sugar to infants who were particularly vulnerable to its toxic effect, producing the so-called "sugar fever."

Marasmus (lost power of assimilation, decomposition atrophy). This condition is so well known that it hardly needs an explanation. According to Grulee, it is "a chronic state of malnutrition seen in infants, characterized by inability to so assimilate the food given as to gain weight properly, by subnormal tempera-

ture, emaciation and by a greatly lowered resistance." The name "decomposition" has been given by Finkelstein to this well known condition, but it only serves to confuse the nomenclature.

Diarrhea from cathartics. Diarrhea is frequently caused by the continued and daily use of cathartics and it is very important to recognize this form in order to correct it.

Mechanical Diarrhea. This class of diarrhea has grown smaller with our increased knowledge of the principles of infant feeding. It was formerly thought that the curds and various other constituents of the food acted mechanically only through irritation of the bowel and thus caused the diarrhea. Mechanical diarrhea is now limited to cases occurring in infants and older children who have been given some specific indigestible article of food, such as bananas, undercooked starches, or the various other foods unfit for children.

This form of diarrhea has also been the cause of the absurd practice of treating all diarrheas with a cathartic and a period of starvation. Such treatment is, of course, necessary in mechanical diarrhea.

Other organic causes. Typhoid fever, amebic dysentery, tuberculosis, ulcer, are noted here only to make the classification of the two schools complete.

The classification of diarrheas that I like best from a therapeutic standpoint and one that is given by Dennett, of New York, is fermentative diarrhea, putrefactive diarrhea and infectious diarrhea, dysentery, cholera infantum, etc., or infectious diarrheas.

Differential diagnosis of fermentative and putrefactive diarrheas. The onset is the same, usually sudden, with a low degree of temperature—99° to 102°—and the infant appears only slightly ill. Apart from the stools there are only two main points of distinction. The fermentative diarrhea almost always occurs in the infant who has been fed a high sugar or starch diet, whereas the putrefactive diarrheas occur in infants who have been given strong milk mixture with little or no sugar or starch in them, or in older infants who are being fed a great deal of sugar or starch. The majority of these diarrheas are fermentative in type and especially so in infants under six or seven months of age. The therapeutic test is the second means of distinguishing between the two. If there is any doubt as to whether the diarrhea is fermentative or putrefactive in type, the case should be treated first as a fermentative diarrhea; for instance, with a one-third milk and two-thirds water mixture. If it is fermentative diarrhea it will respond readily to this treatment; but if it is the putrefactive form the treatment will be of no avail and a starch diet, consisting of a thick gruel, will have to

be used before the condition is overcome. It is usually better, when using this therapeutic test, to give a boiled milk mixture to the younger infants, say under five or six months of age, and the gruels to infants over that age, since younger infants are more liable to fermentative diarrhea and older ones to the putrefactive.

The stools of fermentative diarrhea are usually more numerous than those of putrefactive diarrhea. The color is not significant nor is the presence of mucus or curds. The consistency, the typical foamy, watery stool of fermentative diarrhea, differs greatly from that of the rather firm, brown stool ordinarily seen in putrefactive diarrhea.

The reaction of the stool in fermentative diarrhea is acid, usually giving rise to inflamed buttocks and chafing. The reaction of the stools of putrefactive diarrhea is alkaline and is not apt to be irritating to the skin.

In determining the reaction of the stool it is necessary to get a stool that has been freshly passed and which is uncontaminated by urine. In order to do this it is advisable to insert a small test-tube (with a hole blown in the side) into the rectum, taking out the fresh feces in this way for examination.

The sour and offensive odor of the stools accompanying fermentative diarrhea is very characteristic. The stool of putrefactive diarrhea has a foul odor which resembles the odor of decayed meat. Make a strasberger to see if you have putrefactive diarrhea; example: fill 1-4 test-tube with feces and make a stab culture with litmus milk; if you get air bubbles it is fermentative diarrhea; if no bubbles, and particles or lumps are at side of test tube, it is putrefactive diarrhea. Will get one by letting stand 12 hours.

Another test: Incubate a portion of the stool in a test tube one-half full of milk; let stand in warm room twelve hours; if you have a lot of gas bubbles and an odor of old cheese or butter it is fermentative diarrhea; if no gas bubbles it is dysentery.

If a child has a stool fifteen minutes after feeding it is a nervous diarrhea. Treatment is opium.

Dysentery (synonymous with ileocolitis infectious diarrhea). Up to the present time several different micro-organisms have been isolated from the stools of infants having dysentery among which are the Flexner dysentery bacillus, the Shiga dysentery bacillus, the colon bacillus and the streptococcus. According to Kendall, these bacteria no longer produce toxins when the diet is exclusively carbohydrate. This explains why the purely carbohydrate diet has been successful in combatting certain cases of dysentery.

The diagnosis of dysentery presents few diffi-

culties. An infant who has previously been well, or one who has had intestinal indigestion, is suddenly attacked with a severe illness. The temperature ranges from 104° to 106° , there is uncontrollable vomiting at the onset and a rapid loss of weight. The stools are numerous, ten or twenty or even more, in twenty-four hours and, after the fecal matter which was in the bowels at the onset has been evacuated, are composed almost entirely of blood and mucus, each evacuation being accompanied by tenesmus.

Cholera infantum. It has been questioned by some authorities whether cholera infantum should be dignified by a classification of its own since as yet no bacteria have been isolated as its direct cause. It would probably be better to call this condition intoxication were it not for the fact that it might be confused with Finkelstein's sugar intoxication.

Clinically, cholera infantum has a very definite entity. It is characterized by a sudden onset, high rise in temperature, almost continuous vomiting, profuse diarrhea, stools which quickly lose their fecal character and are white in color, like rice water, and consist almost entirely of serum and mucus. The fluids of the body are rapidly drained, collapse follows, often with coma, and death within from twelve to thirty-six hours of the onset.

Treatment of diarrheas in bottle-fed infants. Diarrhea in bottle-fed infants is as often the result of intestinal indigestion, or non-digestion due to incorrect feeding, as it is to bacterial infection.

By "incorrect feeding" is meant a food which is not suitable for the individual infant at a particular time and not necessarily a food that is improper under other conditions.

Formerly all cases of diarrhea were treated in a routine manner with a cathartic followed by a period of starvation, because all were thought to be due to a bacterial invasion from sources outside the body and it was believed that undigested food within the bowels should be removed by this means. Since only a portion of the cases of diarrhea is due to an infection and since the bowel usually is emptied very thoroughly of its own accord without the assistance of cathartics, it is not advisable to use them in every case of diarrhea. In selected cases a cathartic followed by a period of starvation is a very useful procedure, but both cathartics and starvation have done a great deal of harm.

It would seem most illogical to treat all cases of diarrhea in the same routine manner; the results of such routine treatment are not successful. In older, stronger infants, cathartics aggravate the diarrhea when the bowel is already irritated by intestinal indigestion; and

with small, emaciated infants who have no strength to lose from starvation, it is still more harmful to starve them and further irritate the bowels with cathartics. This treatment is often the means of reducing an infant to such a condition that recovery from the loss of strength which it has suffered is an impossibility. It is absolutely necessary to stop a diarrhea, even if it is very mild in character, before giving an infant a food of the proper quality and quantity to make a gain in weight. While we are getting control of the bowels and until the digestion is straightened out an infant's actual caloric needs must be disregarded.

The treatment of diarrhea in bottle-fed infants is almost entirely dietetic. Drugs are of minor importance and even when they are employed a proper feeding must still be instituted.

The treatment of fermentative diarrhea is Eiweiss milk made with Larosan as directed on package. (I boil for five minutes.) It is well to continue it two or three days after the stools have become solid in order to prevent a recurrence. It is seldom advisable to continue the food longer than ten days unless sugar is added, and with small, young infants who are emaciated and have little power of resistance, it should not be given for even so long a time. Often within forty-eight hours the desired results may be obtained; the stools become dry or pasty, the mucus disappears and by continuing the Eiweiss milk for two days longer a recurrence is prevented. Saccharine, 1gr. to qt., can be added to Eiweiss milk to make it more palatable. When Eiweiss milk is stopped boiled milk one-third and water two-thirds without sugar should be given. If diarrhea returns go back to Eiweiss milk until the stools have been dry or pasty for two or three days and no mucus, then use one-half fat free milk and one-half water, boil together three minutes; use this three days, then use one-third milk and two-thirds water for two days, then gradually increase milk and add sugar dextri-maltose No. 1. Begin with one tablespoonful leveled with a case knife, increase tablespoonful every three days until desired amount is reached. It is never best to change abruptly from Eiweiss milk to a food which has artificial sugar added to it as the amount of lactose already in the milk is sufficient at the beginning.

The quantity of food to be given and the intervals between feedings depend upon the age, size and weight of the infant. With the exception of the paradoxical weight reaction of Finkelstein, that is, the more food that is given them the more do they lose in weight. The paradoxical weight reaction usually occurs in marasmus infants with or without a diarrhea. Give lactic acid, give bacillis acidophilus. (It is put up in three forms, viz. capsules, tablets

and liquid culture.) Give liquid by rectum if you use it for it tastes bad; the capsules are the best way to give it.

The treatment of putrefactive diarrhea. Theoretically any carbohydrate will do and some investigators believe that sugar, particularly lactose, is the best form of carbohydrate to use. I differ with this opinion, however, for three reasons: First, with younger infants there may have been a previous sugar intolerance and sugar indigestion may be started up in this way. Second, it is undoubtedly better to increase the sugars later after the milk mixtures have been begun. Third, the reasons given in favor of lactose being the proper carbohydrate for infants are theoretical and not supported by clinical evidence.

For small infants under four months of age the barley gruel should be made weak, one level tablespoonful to the quart of water. For the average sized infant, over four months of age, two or three level tablespoonfuls of the flour to one quart of water may be used, and for still older infants, eight or nine months of age, four or five tablespoonfuls to the quart. Use barley flour, Robinson's, Brook's or the Cereo Barley, which can be bought at any drug store.

Take the amount of barley stated above and gradually stir into it enough cold water to make a thin paste, mixing it until there are no lumps. Measure out the amount of water stated above, put on the stove in a saucepan and when it has begun to boil, slowly add the paste, stirring until it has come to a boil again. Add one-fourth teaspoonful of table salt and let it boil slowly (simmer) for twenty minutes. Strain and add enough water (if necessary) to make the required number of ounces of barley. The gruel should be salted to taste, but no sugar or milk or any other ingredient should be added. It should be given in the quantity and at the intervals suitable for the infant's age and size, which is two or three ounces under four months of age, four to six ounces over four months of age. Since the infant is apt to be very hungry at this stage it may be given every two hours to appease the appetite, provided there is no vomiting. Often it is not necessary to use the barley longer than twenty-four hours and it should never be used without the addition of milk longer than forty-eight hours in small or weak infants under four months of age. The older and stronger the infant the longer an exclusive gruel diet may be safely continued, because sufficient starch may be given to maintain the nutrition. An exclusive gruel diet without the addition of milk should never be used longer than four days in infants under one year of age, even when the infant is well nourished. If it is considered desirable to continue the carbohydrate diet longer than this the

gruels should be made with part fat free milk. In this case equal parts of fat free milk and water are brought to the boiling point and the desired quantity of flour is added and cooked like the plain barley gruel described above.

When they are constipated on this, begin adding dextri-maltose No. 1, one-half tablespoonful, increase one-half or one tablespoonful every other day as indicated until desired amount is reached; which is four tablespoonfuls leveled with a case knife for infants under ten pounds and six tablespoonfuls for infants over ten pounds in weight.

For infants old enough to be fed with a spoon, thick gruels are well taken and are effective in checking the diarrhea. A large variety is desirable to avoid monotony and often certain ones will be eaten with relish while others are refused.

Any of the following gruels may be given and should be made in the same way as barley gruel: cornstarch, arrow-root, rice flour (or rice strained through a very fine strainer), Imperial Granum or brown flour gruel. To make brown flour gruel, ordinary wheat flour should be browned in the oven, being careful to use a plate or baking pan that has never had grease upon it. Besides the various gruels, white bread (without butter) sliced thin and toasted brown and hard in the oven may be given, or very stale white bread cut in slices and allowed to dry for a day or two. A bread pap can be made of either of these. It may be made thick or thin according to the child's preference. The following crackers may be given: Arrowroot crackers, Uneeda biscuit, Zwieback. Nothing whatever that is not on this list is to be given. Boiled water, cold or warm, may be given in plenty.

As soon as the stools have become brown in color and firmer in consistency, the milk may be gradually added and the food increased sufficiently to supply the infant's nutritional needs. If, as occasionally happens, in a severe grade of diarrhea during the summer months, the stools show mucus and other signs of indigestion after the milk has been given, the barley gruel may again be given for twenty-four to forty-eight hours. It is never advisable to try it a third time, nor is it often necessary.

Treatment of infectious diarrhea, dysentery type. A cathartic should be given only at the beginning of the diarrhea. Whether the diarrhea has progressed so far as to render it inadvisable to give a cathartic depends much upon the presence of undigested food in the stools and upon the number of stools that have occurred since the onset. If there is no fecal matter in the stools and if there have already been ten to twelve stools, and if no food has

been taken into the stomach since the onset, a cathartic is not needed.

Plain unsweetened water only is given for the first twenty-four hours, or longer if the vomiting has not been checked. This treatment is advisable for two reasons: First, because of the absolute rest given to the intensely inflamed gastro-intestinal tract; second, food of any sort may act as a culture medium for the bacteria. In severe cases, where the body fluids are being drained rapidly through vomiting and frequent evacuations, it becomes necessary to inject a normal saline solution.

Intraperitoneally, 100 to 150 c.c. may be used, requiring fifteen to twenty minutes to administer it. It may be repeated eight hours apart. Use sodium bicarbonate 5 per cent by proctoclysis (by mouth if no vomiting), drams 1 every fifteen minutes. To combat starvation, give sugar intravenously, through the anterior fontanel if open. The three last steps of treatment may be resorted to in the treatment of fermentative or putrefactive diarrhea, under similar conditions. Use anti-dysentery serum polyvalent in dysentery. You can get a sample from the Rockefeller Institute.

After the twenty-four hours of plain water, a carbohydrate is given in the form of weak barley gruel, upon the theory that some of the micro-organisms in the intestines are thus changed to a fermentative type. Fermentative bacteria prevent the formation of toxins and produce acids which are unfavorable to the growth of the dysentery bacillus.

The barley gruel may be continued for three or four days if the infant is strong enough to stand the underfeeding which it entails. Older infants (over nine months of age), if they have been well nourished formerly, may subsist upon a carbohydrate diet for a longer period. Younger infants cannot do so without an excessive loss in weight but, in spite of this fact, they must not be allowed any food except barley gruel for three or four days or until the blood has disappeared from the stools.

Severe cases of dysentery occurring in infants over nine months of age are best treated with a varied starch diet, after the initial period of starvation, giving as much starch as the infant will take. Browned flour gruel, cornstarch gruel, farina, arrowroot and rice flour gruel all may be given. Unsweetened Zwieback, plain crackers or toast, without butter or milk, and bread pap are very useful and often gratefully taken. Bread pap may be made in the following manner: stale bread is put into the oven and thoroughly browned all the way through. It is put upon the stove to cook for a few minutes. The amount of water necessary to soften it varies according to the

taste of the infant, most infants like it fairly dry. When the stools have become normal milk may be gradually added to the diet.

Small infants cannot be nourished with an exclusive starch diet for more than three or four days, or a week at most, and older infants and children who are losing weight and strength too rapidly upon the starch diet, should be given a food that is more nourishing. Eiweiss milk is the safest food to use under such circumstances and often proves to be a valuable aid at this stage of the disease, that is, when the blood is disappearing from the stools and the temperature is lower (101°F.), although the stools still remain loose and numerous and strength is low.

In some very severe cases, in spite of all treatment, the patient succumbs to the disease either during the first few days of the illness or after two, three or even four weeks, when the infection and lack of assimilation have proved too much for the infant's powers of resistance.

Again, cases of moderate severity are seen where the blood disappears from the stools in a day or two and the temperature subsides within from twenty-four to forty-eight hours. The type of infectious diarrhea that is called cholera infantum has the same treatment except that, instead of a cathartic, which if given would be vomited, the stomach and bowels are washed out immediately.

The second part of the treatment, the giving of water, must also be accomplished in a different manner. Water is even more urgently needed in this serious condition than it is in the other forms of diarrhea, but, on account of the vomiting, it will not be retained when given by mouth. Water in the form of a normal saline solution is given intraperitoneally and where this is not practicable, subcutaneously in the scapular region or under the breasts, or wherever the skin is loose. As much as one pint at least in twenty-four hours should be given, using a large syringe.

Medicinal treatment of diarrhea. As it usually cannot be retained by mouth, all medication must be given hypodermically. Grain $1/300$ to $1/150$ of strychnia may be given every four hours. If collapse is imminent or present adrenalin chlorid hypodermically is one of the best stimulants, or ten to twenty drops of brandy may be given every two hours. If the brandy cannot be retained by mouth it should be given hypodermically, especially in a case of emergency.

The fever should be reduced by friction baths. Often the skin is moist and cold in spite of a rectal temperature of 105°F. or over, and when this is so vigorous friction must be used. A friction bath is given in the following manner: All clothing is removed and the infant is wrapped in a sheet, one part at a

time exposed and rubbed vigorously but gently until the blood is brought to the surface. Taking first an arm, the extremity is moistened with equal parts of alcohol and tepid water and light friction continued until the water and alcohol are evaporated. This is repeated for five minutes when the same treatment is given to the other arm, chest, abdomen, back and legs. The evaporation of the water and alcohol cools the blood that is brought to the surface by friction. A warm full bath to dilate the capillaries in the skin may be given if the infant does not react to the friction bath. This bath should be given at a temperature of 105°F. and should last five minutes.

Morphine and atropine, used hypodermically in very small doses, will often stop the vomiting and diarrhea quicker than anything else. It should not be used at the onset, nor until the bowels have evacuated thoroughly many times, nor while there is undigested food or fecal matter in the stools. Morphine is contraindicated when there is stupor or much drowsiness and when there is no purging. The dose of morphine for a child one year of age is gr. $1/64$, given hypodermically. It should be combined with gr. $1/600$ of atropin. This may be repeated in one or two hours if the vomiting and diarrhea are not improved.

In the New York Post Graduate Medical School they do not use any medicine except stimulants in fermentative and putrefactive diarrhea. There had not been an ounce of bismuth subnitrate used there the preceding year that I was there. No medicine at all is resented by the parents in private practice. I use very little bismuth and the other medicine I use is diarrhea cordial put up by Milliken.

Diarrhea of breast fed baby. Give castor oil to baby and to mother; let mother cut down on fats. If baby runs diarrhea three weeks, growing gradually worse, take it off the breast. Treatment: first day, plain water; second day, breast, four hours apart for five minutes, and two or three ounces of water after nursing; third day, if worse come back to first day's treatment; fourth day, repeat second day's treatment, if diarrhea continues, give less milk and more water.

I will enjoy the discussions on this paper and if there are any questions I shall be glad to hear them.

INFLUENCE OF MENSTRUATION ON FOOD TOLERANCE IN DIABETES MELLITUS.—Jacob Rosenbloom, New York (*Journal A. M. A.*, June 18, 1921) records the results of his study of two cases of diabetes mellitus in which the patients lost all their food tolerance with the onset of the menstrual period. The explanation of the loss of food tolerance he believes is some temporary alteration in the function of the gonads, either an increased secretion or a lack of correlation with other of the endocrine organs.

THE JOURNAL

OF THE

Missouri State Medical Association

APRIL, 1924.

EDITORIALS

THE SPRINGFIELD SESSION.

The Greene County Medical Society has completed arrangements for the entertainment of the members who attend the 67th Annual Session to be held in Springfield May 6, 7, and 8. The presence of several well known physicians from outside the state and the excellent papers on the program will undoubtedly attract an unusually large number of members to this meeting. The beautiful new Shrine Mosque, where all the meetings will be held, and the numerous hotels in Springfield assure the members of a commodious meeting place and ample hotel accommodations. The exhibits will also be housed in the Mosque convenient to the meeting hall.

The golf tournament this year will be very successful if the interest demonstrated already continues to prevail. From all towns comes the report of possible entries. The Springfield Country Club has extended to the State Medical Association the fullest privileges of the club. The Springfield golf club professional will take charge under the direction of the golf committee. The Country Club has a beautiful club house and locker room as well as an eighteen-hole course within ten minutes ride from the heart of the city. All interested in the game and desiring to enter the 1924 State Association Tournament should communicate with Dr. R. C. Lounsberry, 710 Woodruff Building, Springfield, at once. It is hoped that 100 physicians will put on their knickers and play in this tournament. Let all golf lovers combine and thus make this the greatest tournament the State Association has ever known.

Again we call attention to the arrangement of the scientific sessions to be held on Wednesday and Thursday, May 7 and 8, in order to prevent interruption and confusion by the meeting of the House of Delegates. Tuesday, May 6, has been reserved for the House of Delegates and the Council. The president's reception will take place Wednesday night, May 7, and at that time addresses will also be delivered by well known physicians from other parts of the country who will be guests of the Association.

The House of Delegates will consider an amendment to the constitution introduced last year to make the term of councilors three years

instead of five years. The committee on constitution and by-laws will submit its report on the method of electing the president as directed by the House at the last session and possibly recommend other amendments to the by-laws.

The outlook for the meeting is particularly encouraging for a large attendance and members are urged to make hotel reservations early. The hotel committee suggests that requests for reservations be made through the hotel committee. The committee has the assurance that the unhappy incident experienced at Joplin concerning hotel rates will not be repeated at Springfield. The rates as published in another column have been supplied to the hotel committee by the managers of the hotels and no increase over these rates will be attempted.

When making reservations, members should mention the name of the hotel, the price they wish to pay and whether single or double room, with or without bath, is wanted.

HOTELS AND RATES FOR SPRINGFIELD MEETING

The Colonial Hotel will be headquarters for the 67th Annual Session at Springfield, May 6, 7, 8, but all meetings will be held in the Shrine Mosque. Make your reservations through the hotel committee, of which Dr. H. A. Lowe, Woodruff Building, is chairman, and state the name of the hotel, the rate you expect to pay, single or double room, with or without bath. The committee will make the reservation and notify you.

HOTELS AND RATES—ALL EUROPEAN PLAN.

Colonial Hotel (Headquarters).

Single room without bath \$1.50, \$2.00, \$2.50.
Double room without bath \$2.50, \$3.00.
Rooms without bath, two beds, two persons, \$3.50.

Single room with bath, \$2.50, \$3.00, \$3.50, \$4.00.

Double room with bath, \$4.00, \$5.00, \$7.00.
Room with bath, two beds for two persons, \$5.00.

Additional cots in room with bath \$2.00 each.

Hotel Sansone

Single room with bath, \$2.00, \$2.25, \$2.50.
Double room with bath, \$3.50, \$3.75, \$4.00.

Ozark Hotel

All rooms are equipped with private bath.
Single room, \$2.00, \$2.25, \$2.50.
Double room, \$3.00, \$3.50, \$4.00.
Extra persons in room, \$1.50.

Marquette Hotel

Single room with bath, \$1.50, \$1.75.
 Double room with bath, \$2.50, \$2.75.
 Single room without bath, \$1.00, \$1.25.
 Double room without bath, \$1.75, \$2.00.

Metropolitan Hotel

Single room with bath \$1.75.
 Double room with bath, \$3.00 and up.
 Single room without bath, \$1.25.
 Double room without bath, \$1.75.

SPRINGFIELD COMMITTEES FOR THE ANNUAL SESSION MAY 6, 7, 8, 1924.

The following committees have been appointed by the Greene County Medical Society to look after the comfort and entertainment of the members who attend the meeting next month:

HOTEL COMMITTEE.

H. A. Lowe
 O. C. Horst.
 E. M. Box

RECEPTION COMMITTEE.

W. P. Patterson
 D. U. Sherman
 Jos. W. Love
 W. R. Beatie

ENTERTAINMENT COMMITTEE.

Paul F. Cole
 J. E. Dewey
 G. D. Calloway

GOLF COMMITTEE.

R. C. Lounsberry
 R. W. Hogeboom
 George Hogeboom

AUTO TRANSPORTATION COMMITTEE.

Garrett Hogg
 Edwin F. James
 U. J. Busiek

THE CONVENTION OF THE AMERICAN CONGRESS ON INTERNAL MEDICINE AND COLLEGE OF PHYSICIANS

The meeting of the American Congress on Internal Medicine and College of Physicians which was held in St. Louis the week beginning February 18, 1924, was one of the most productive and profitable medical meetings ever held in St. Louis. It was particularly fruitful on account of its stimulating effect upon the clinicians of this city, by making them feel the tremendous clinical resources and power of

medical teaching which they have at hand. All of the progressive scientific students of clinical medicine were given an opportunity to exhibit their personal endeavors in the clinics and laboratories of their own hospitals and universities. Judging from the general expression of commendation from this unusually high class, critical audience, St. Louis is to be congratulated upon both her medical attainments and the advanced methods by which they were presented.

The attendance of the Congress and College was particularly characterized by the high standards of the individual men attending and their earnest desire to investigate the clinical methods and studies offered at the various sessions. Foreign guests attending this Congress gave the clinics and discussions a more than international, even continental, scope. Among these were: Professor A. Biedl of Prague, Czechoslovakia; Dr. D. S. Lewis, Montreal, Canada; Professor Leonard Murray, University of Toronto; Dr. Wm. Magner, Pathologist, St. Michael's Hospital, Toronto, Canada; and Dr. Jabez H. Elliott, of Toronto. Among the other distinguished guests who gave special addresses were: Dr. A. S. Warthin, Professor of Pathology, Ann Arbor; Dr. Wade Brown, Rockefeller Institute; Dr. Wm. C. MacCarty, Rochester, Minn.; Dr. Harlow Brooks, New York; Dr. John Phillips, Cleveland; Dr. F. M. Pottinger, Los Angeles; Dr. Frank Wright, Chicago; Dr. Stewart Roberts, Atlanta, and Drs. Logan Clendenning, P. T. Bohan, Frank Ridge, and Wm. W. Duke of Kansas City.

Of the various scientific sessions, the morning clinics were the group receiving the most complimentary remarks from the audience at large. During this week over 600 clinics averaging more than 120 each day were given in twenty-six institutions, the various dispensaries, hospitals, and universities. With very few exceptions the attendance at every clinic was up to its capacity. The perfect organization work of the program committee was exhibited by the proper manning and conduct of the individual clinics. Every clinician was at his station and with very few exceptions every clinic was given at the time scheduled, with more specially prepared clinical material on hand than could be demonstrated. The clinics which attracted the largest number by actual count were those of St. John's Hospital.

The universities threw open their laboratories and special research work that had been done recently demonstrating a wide variation of allied subjects pertaining to internal medicine. Interesting demonstrations were those of visualization of the gall-bladder by X-ray methods at Washington University, the new ovarian hormone by Darcy and Allen, experimental work on nicotin poisoning by Thomas and

Francke, physiologists at St. Louis University, and mechanism of the pistol-shot sound in relation to the diastolic pressure by Dr. Joseph Erlanger.

The room set aside by the library of the Washington University School of Medicine containing the original notes and letters by William Beaumont, the pioneer American physiologist, in the course of his investigations on the secretion of the gastric juice was of special interest to many members of the Congress. The Wintersteiner Collection of pathological eye conditions, which required nearly fifty years of Wintersteiner's life to assemble, and now in the R. L. Thompson Pathological Laboratory of St. Louis University, was a feature of the exhibits of this convention.

The afternoon sessions during which twenty-minute abstract papers were read on general clinical medicine and its allied specialties were largely attended and it was a noteworthy fact that the last paper of the last afternoon session had as large an audience as any during the entire week. The evening sessions were devoted to special guests and the Tuesday evening session addressed by Professor A. S. Warthin, Ann Arbor, and Dr. Wade Brown, New York, consisted of the largest medical audience that had ever assembled in St. Louis.

The social events of this convention were given most detailed consideration. Banquets, smokers, and entertainments for the ladies were especially enjoyable events. Over sixty ladies were registered who were cared for by some entertainment every afternoon and evening during the entire session of the Congress. The consensus of opinion among the ladies was that this meeting afforded the most delightful association and recreation ever provided by a medical assembly.

On Thursday evening the Convocation of the College of Physicians occurred at which time many new members were initiated into the College. The personnel of the Missouri membership of the College of Physicians is as follows:

Columbia, D. G. Stine.

Excelsior Springs, E. C. Robichaux.

Kansas City, Peter Thos. Bohan, Logan Clendenning, Wm. W. Duke, A. C. Griffith, Geo. H. Hoxie, Lindsay S. Milne, Franklin E. Murphy, Wilson A. Myers, Frank Ridge.

Springfield, A. L. Anderson.

St. Joseph, John M. Bell, Frank A. McJunkin.

St. Louis, Walter Baumgarten, Jules M. Brady, Louis H. Behrens, Malcolm Bliss, J. R. Clemens, Wm. Engelbach, Edwin Ernst, O. P. J. Falk, Wm. W. Graves, Drew Luten, L. S. Luton, J. Curtis Lyter, Jas. F. McFad-

den, A. P. Munsch, Chas. Hugh Neilson, Leroy Sante, Edwin Schisler, Elsworth S. Smith, Horace Soper, John L. Tierney, Noxon Toomey, Geo. W. Wilson, John Zahorsky.

R. Walter Mills, St. Louis, posthumously honored.

The newly elected officers for the Congress on Internal Medicine are as follows:

Wm. Gerry Morgan, President, Washington, D. C.

Leonard Murray, First Vice President, Toronto, Ont.

Roy Ross Snowden, Second Vice President, Pittsburgh, Pa.

Clement R. Jones, Treasurer, Pittsburgh, Pa.

Frank Smithies, Secretary-General, Chicago, Ill.

Those for the College of Physicians are as follows:

Harlow Brooks, President, New York, N. Y.

Jabez Henry Elliott, First Vice President, Toronto, Ont.

Aldred Scott Warthin, Second Vice President, Ann Arbor, Mich.

Clement R. Jones, Treasurer, Pittsburgh, Pa.

Frank Smithies, Secretary-General, Chicago, Ill.

The Board of Regents comprise the following:

Jas. M. Anders, Philadelphia, Pa.

Henry Plummer, Rochester, Minn.

Lewellys F. Barker, Baltimore, Md.

Sydney R. Miller, Baltimore, Md.

F. M. Pottenger, Monrovia, Cal.

John A. Lichty, Pittsburgh, Pa.

Franklin W. White, Boston, Mass.

Alfred Stengel, Philadelphia, Pa.

Leonard M. Murray, Toronto, Ont.

John Phillips, Cleveland, O.

Josiah Hall, Denver, Colo.

Frederick Tice, Chicago, Ill.

E. R. Stitt, Washington, D. C.

Wm. Chestnut, Winnipeg, Manitoba.

Stewart B. Roberts, Atlanta, Ga.

The only cloud on the bright sky of this meeting was the death of one of the members, Dr. Walter Mills. This was recognized reverently during one of the sessions, and Dr. Mills was honored posthumously by official action of the Congress.

Two scholarships, a total sum of \$500, were awarded to the two universities of St. Louis, this award to be known as the Fellowship Award of the American Congress on Internal Medicine and the American College of Physicians. Its intention was to serve as a donation to the undergraduate in medicine or a member of the faculty of each of these institutions whose contribution in the opinion of the authorities of the university had been the best as

to original work in clinical medicine. This contribution is to be the first article in the official journal, the *Annals of Medicine*.

Other official action of the Congress and College was the placing on record of a protest against the failure of the government to allow physicians to deduct from their income taxes expenses incurred when attending medical meetings or doing postgraduate medical work.

The next meeting of the Congress on Internal Medicine will be held in Washington, D. C., in the spring of 1925.

AMENDMENT NUMBER 5 DEFEATED

Amendment No. 5 in the proposed amendments to the constitution of the state, which required the General Assembly to provide means for the safeguarding and protection of the public health and welfare was defeated in the recent election by a majority of 49,424. St. Louis and Kansas City gave good majorities for the amendment but the voters in less populous districts failed to appreciate the importance of this proposal to themselves and to succeeding generations.

It is difficult to analyze the motive that seems to have permeated the rural population on this question and caused the people to vote "No" in such numbers as to wipe out the majority in the cities. We know some of the sources of opposition to the clause and perhaps this opposition was concentrated on the country voter, always hostile to new modes and methods that seem to alter the established routine of living conditions. Possibly the mandatory nature of the amendment aroused visions of an increase in taxes, an entirely groundless fear.

If the amendment had required the General Assembly to provide means for protecting the health and welfare of the hogs, horses and cows, perhaps it would have carried unanimously, for even the city voter desires that protection and the veterinary profession has no organized opponents or cultists exclaiming against the "veterinary trust" or the "veterinary doctors."

Amendment No. 5 was a simple declaration acknowledging the responsibility of the state in safeguarding the health and welfare of the people and imposed upon the General Assembly the duty of providing means for that protection.

NEWS NOTES

DR. T. GUY HETHERLIN, of Louisiana, Missouri, has been appointed health officer for the city of Louisiana.

DR. WM. A. ROHLFING, chief dispensary physician at St. Louis, became seriously ill when gangrene developed in his hand following a bite on one of his fingers March 8 by a negro patient whom he was treating.

DR. G. WILSE ROBINSON of Kansas City, President of the Missouri State Medical Association, will address the Adams County Medical Society at Quincy, Illinois, on the "Psychoses of the Dementia Precox Group," April 14.

FIFTEEN cases of smallpox were discovered in a negro settlement on the outskirts of St. Louis, March 10. The health department immediately ordered a general vaccination of the people on the neighborhood and the school children. St. Louis is a well vaccinated city so it is not expected that the disease will spread to a serious extent.

THE creation of a chair of hygiene and physical culture at McKendree College, Lebanon, Illinois, is provided for, and a bequest of more than 10 acres of land near the college is made in the will of the late Dr. Benjamin M. Hypes, St. Louis, a founder of the Marion Sims Medical College. It will be known as the Benjamin Hypes Professorship, in memory of the testator's father.

IF Senate Bill 2290 introduced in the present session of Congress should become a law existing federal laws would be modified so as to permit the circulation of contraceptive knowledge. The bill contains a new provision to safeguard the circulation of proper contraceptive knowledge by requiring certification by five physicians that the transportation of such information is not injurious to life or health. The bill legalizes access to birth-control knowledge.

BLISS HALL is the name that will be given to one of the four \$100,000 dormitories nearing completion for the St. Louis Training School for the Feeble-minded, the hall being named for Dr. Malcolm A. Bliss, of St. Louis. The other three dormitories will be named for physicians. Dr. Walter E. Fernald, Boston, Mass.; Dr. George M. Kline, Boston, Mass., and Dr. George L. Wallace, Wrentham, Mass., all of whom have achieved eminence in the treatment of nervous diseases.

THE first sentence passed on the diploma mill operators since October 15, 1923, when the scandal was first brought to the attention of the general public, occurred at Hartford, Conn., March 11, when Dr. George Sutcliffe, holder of a diploma from the St. Louis College

of Physicians and Surgeons, was sentenced to six months in the county jail after being found guilty of manslaughter in connection with the death of a person upon whom Sutcliffe had operated for an injured finger.

ST. LOUIS Medical Society is making an intensive drive to raise \$275,000 to complete a new building as a home for the society. The sum of \$100,000 has been pledged and a plot of ground on Lindell Boulevard adjoining Moolah Temple, 150 by 154 feet, has been purchased. This is a notable undertaking and every member is enthused over the prospect of having a beautiful home for the society and its library of 20,000 volumes.

PROBABLY the oldest physician in the United States, Dr. Joseph S. Halstead, of Breckenridge, Missouri, passed his 106th birthday on March 4. Dr. Halstead is recognized as the oldest Mason in the world. All business houses in Breckenridge closed their doors between the hours of twelve and one in celebrating Dr. Halstead's birthday, and the Masons of the town went to his home in a body to pay their respects to him. Dr. Halstead was born in Louisville, Kentucky, March 4, 1818.

THE following articles have been accepted for New and Non-Official Remedies:

Abbott Laboratories: Butesin Picrate, Butesin Picrate Ointment.

Parke, Davis and Co.: Dibromin.

E. L. Patch Co.: Patch's Flavored Cod Liver Oil.

Vitalait Laboratory of California: Vitalait Culture Bacillus Acidophilus.

Wilson Laboratories: Epinephrin-Wilson; Epinephrin Powder-Wilson, Epinephrin Solution, 1:1,000-Wilson.

WASHINGTON University Medical School will add a department of bacteriology and preventive medicine to the teaching facilities as soon as a competent director can be secured for the department. The General Education Board has appropriated \$400,000 for the endowment of the department and this sum added to the fund already on hand will secure the establishment of the department. Instruction will be given to physicians, trained nurses, public health workers and others in methods of personal and community hygiene and health conservation.

DR. J. CURTIS LYTER, of St. Louis, delivered a lecture on the Experimental and Clinical Aspects of Chronic Pulmonary Infections before the faculty of Battle Creek Sanitarium,

Battle Creek, Michigan, Monday evening, March 10; before the Society of Lansing, Michigan, at Lansing, Tuesday evening, March 11; and before the Kenyon County Medical Society at Grand Rapids, Michigan, Wednesday evening, March 12. The lecture was based upon the experimental and clinical work done by Dr. Lyter during the last few years at St. Anthony's Hospital.

LAST month we published an item stating that Dr. E. L. Rhodes was leaving Lincoln and desired to hear from a physician to succeed him and we stated that there was one other physician in Lincoln. We have learned that there are two other physicians in Lincoln. We also stated that the population was 600, whereas it is 345, according to the last census.

Another erroneous statement occurred in our notice that a physician was needed at Browning, when we stated that there were no physicians in that city. We are informed that there are two physicians at Browning.

THE Secretary of the Interior, Dr. Hubert Work, has outlined a new plan for the reorganization of the Interior Department which he has submitted to the joint congressional Committee on Government Reorganization. Secretary Work's plan provides for four divisions of his Department: Bureau of Education, Bureau of Public Health, Bureau of Public Works, Bureau of Territorial Affairs.

The Secretary asserts that the Surgeon General of the Public Health Service should be *ex officio* Secretary of the proposed Bureau of Public Health.

Incidentally, the Chairman of the National Health Council has been authorized to appoint a committee to consider this whole matter of a Federal Department of Welfare or Health.

CONGRESS is asked in Senate Bill 2153 recently introduced, to amend the Food and Drugs Act by giving the Secretary of Agriculture authority to investigate the composition, identity, strength, quality and purity of food articles subject to the Act, (2) to define and fix standards of purity for such food, and when circumstances require, (3) to modify or amend such standards. These definitions and standards, when promulgated by the Secretary, would govern in determining as to adulteration or misbranding within the meaning of the Act. Definitions and standards would not be fixed until there had been opportunity for persons interested to be heard and no standard or modification would become effective until six months after its promulgation by the Department.

AMERICAN cattle are far better protected against spurious vaccines than American human beings. The interstate sale and distribution of serums and vaccines for human use is partly controlled by a Federal board. A license to sell a serum is issued, provided it has been made in a sanitary manner, but the board is limited in its inquiry to the *method* by which the product is manufactured, and may not pass upon the *medical value* of the vaccine—may not say whether it is good or bad, real or false.

There is now before Congress a bill to give the board the additional power of passing upon the efficacy of the remedy itself by providing that no false or misleading labels shall be used, and that advertisements and circulars must be approved by the board. The proposed amendment does not attempt to limit or control the sale of genuine serums, but only to suppress the traffic in fake ones. It has the support of the best medical opinion, and it should pass.—*Collier's Weekly*.

DOCTOR RALPH A. KINSELLA, of St. Louis, acting head of the Department of Medicine, Washington University, and chief physician to Barnes Hospital, has accepted the appointment of Director of the Department of Internal Medicine of the Medical School of St. Louis University and Physician in Chief to the University Hospital recently formed by the St. Mary's group. The department of internal medicine will be placed upon a full time basis. Dr. Kinsella will assume his new duties August 1. He is a native St. Louisan and obtained his education in the academic and medical departments of St. Louis University. For three years he was on the residence staff of the St. Louis City Hospital; was Research Fellow and Associate Attending Physician at the Presbyterian Hospital, New York, and instructor at Columbia University Medical School for three years; during the World War he served as major in the army and was a member of several important commissions, among them one that studied the influenza epidemic.

THE American Chemical Society has appointed state committees to have charge of the competition in each state for the prize essays submitted by pupils in high schools and secondary schools throughout the country. The purpose of the prize essay contest is to bring about a better understanding of chemistry in the minds of the laymen of the country. The competition in Missouri will be in charge of the following committee:

Mr. Edward Mallinckrodt, Jr., Chairman, vice president Mallinckrodt Chemical Works, St. Louis. Dr. C. W. Cuno, Assistant Professor of Chemistry, Washington University, St.

Louis. Dr. John Auer, Department of Pharmacology, St. Louis University School of Medicine, St. Louis. Dr. M. P. Ravenel, Professor of Preventive Medicine, University of Missouri, Columbia. Mr. H. J. Waters, Managing Editor, *The Weekly Kansas City Star*, Kansas City. Col. A. J. Elliott, Manager Farm and Home Savings & Loan Association, Kansas City. Mr. W. R. Teeters, Department of Chemistry, Soldan High School, St. Louis. Mr. Ralph R. Matthews, Roxana Petroleum Corporation, St. Louis.

AGAIN tragedy has befallen a Missouri home because the state does not safeguard its citizens against persons posing as competent physicians. This time it is the loss of an eye with the probable loss of the other eye because of the attempt of an unlicensed person to treat diseases. According to the records of the health department in St. Louis, Ernest Behagen, a foreigner calling himself a physician but without a license to practice in this state, treated a woman for crossed eyes and she asserted, used an ordinary needle in attempting to remedy the condition, and no anesthetic. Infection followed the attempt and the woman has lost the sight of that eye. Behagen says he is a graduate of a medical college in Copenhagen, Denmark, and that he studied under Professor Lawrence Fuchs at Vienna, and at the Chicago Eye, Ear, Nose and Throat Hospital. The police found in his baggage several diplomas, one from a chiropractic college in Chicago. He asserted that he had applied to the State Board of Health for a license to practice but this is denied by the president of the Board, who says that the records fail to disclose any application from Behagen. Behagen was arrested at the request of the St. Louis Board of Health and is being prosecuted for practicing medicine without a license. He is also wanted in Illinois for a similar offense.

INTER-STATE Post-Graduate Clinic Tour to Canada, British Isles, and Paris in 1925 is now being arranged under the supervision of the managing-director's office of the Tri-State District Medical Association. The time for leaving will be about the middle of May.

The tour will consume approximately two months and the total cost from Chicago and back to Chicago again will be less than \$1,000. This will include all clinic arrangements and admissions and all traveling expenses, except meals on Pullmans in America and tips on the ocean steamer. First-class hotels will be used everywhere and the ocean passage will be on the largest and finest of the new one-cabin ships.

Clinics are being arranged in Dublin, Bel-

fast, Liverpool, Manchester, Leeds, Edinburgh, Glasgow, Newcastle, London and Paris and other points of clinical interest. The clinics will be conducted by the leading clinicians of these cities. The opportunity will be given, subsequently, to visit the clinic centers in other parts of Europe.

This tour is open to members of the profession who are in good standing in their State or Provincial Societies and their families and friends.

Sight-seeing programs will be arranged practically every day abroad including the most scenic part of the countries visited without extra cost.

On account of the great demand for reservations, applications should be made as early as possible to Dr. William B. Peck, managing-director, Freeport, Illinois. Preference in the assignment of hotel and steamship accommodations will follow the order in which the applications are received.

NO REDUCTION IN SPECIAL TAXES ON PHYSICIANS

The proposed revision of the Revenue Act of 1921 was passed by the House of Representatives, February 29. No reduction was made in the war tax imposed under the Harrison Narcotic Act, nor were physicians given the right to deduct the computation of their income taxes traveling expenses incident to attendance at meetings of medical organizations or expenses of postgraduate study. Unless the Senate acts favorably, the profession will be compelled to continue to pay annually, in time of peace, approximately a quarter-million dollars war tax, over and above the amount that would be collected under the normal tax of one dollar a year. The profession will be compelled, too, to resort to possibly expensive and long-drawn-out litigation to defend its rights under the income tax law in the matter of traveling and postgraduate expenses, or to be continuously mulcted of the tax paid by the profession on such expenses. Having in mind, apparently, the strengthening of his position in refusing to recommend a reduction of the tax under the Harrison Narcotic Act, the Secretary of the Treasury has sought and obtained from the House of Representatives and is seeking from the Senate, authority to absorb in the execution and enforcement of the Harrison Narcotic Act the war revenue now being collected under it. This means that he is endeavoring to procure an increase in the appropriation for its enforcement of from \$750,000 a year to \$1,250,000 a year, thus using up the ordinary excess revenue derived from the act. Obviously, there is no justification for assessing the cost of executing and enforcing this law against those who are taxed under it, as it is for the good of

the public generally; but if the principle once is established, it will be difficult to modify or abolish. It is of the utmost importance that physicians who are interested in protecting the rights of the profession immediately write and telegraph to their senators, urging relief. Letters and telegrams should be sent particularly to the members of the Senate Finance Committee. Facts on which appeals for relief may be based were printed in *THE JOURNAL*, January 26, p. 326.—*Jour. A. M. A.*, March 15, 1924.

OBITUARY



R. WALTER MILLS, M.D. 1877 1924

IN MEMORIAM RALPH WALTER MILLS

"He had compassion on the multitude,"
Compassion so intense he felt the pain
Of others as his own, nor could restrain
His suffering and profound solicitude
'Till he had spent his strength; and thus imbued
With others' sorrow sought new strength
again
In poetry and music's sweet refrain,
In sky, woods, streams and Earth's deep solitude.

His soul was as a harp-string, sensitive
To beauty, joy, but more than all, to pain,
Reechoing compassion's tenderest strain
Until the tense string broke. The song will
live—

His song of sympathy for old and young
Will live and help till all Earth's songs are
sung.

MARY KOUES SACHS.

R. WALTER MILLS, M.D.
1877 1924

Dr. Mills' early training peculiarly fitted him for the great work he was destined to perform. As a boy he was the protege of Otto Widmann, the great naturalist. By this association he absorbed a reverence for truth and scientific research that always remained one of his chief characteristics. That he never lost interest in natural science is evidenced by two recent papers which were presented before the St. Louis Naturalists' Club, viz., "The Red Fox and the Question of Its Importation or Nativity," and "Medicine Bow Country and Its Birds." He was always deeply interested in art. Indeed for a while he was undecided between an artistic career and the study of medicine. His anatomical drawings made while yet a student are still to be found in medical textbooks. Dr. Mills was a general practitioner of medicine for a period of eight years (1903-1911). His work in Webster Groves endeared him to the people of that locality. He entered the field of gastro-enterology in 1911 after careful preparation in the great clinics of Europe.

The use of the roentgen ray in internal diagnosis aroused his enthusiasm because his type of mind required objective visualization rather than theoretical considerations. While he was generally regarded as an X-ray specialist he was in fact and ever remained a great clinician. He was always in touch with every advance in clinical medicine. His work as a specialist was sound because it was based upon a broad comprehension of the problems of the practitioner of medicine. Space forbids a recital of his many achievements in technical roentgenology. His great work on "The Relation of Bodily Habitus to Visceral Form, Position, Tonus and Motility" appeared in 1917. This work is epoch-making in character and establishes a clinical classification of anatomic and physiologic types so clearly and definitely that it is destined eventually to be used by all teachers of clinical medicine. His work on "Complete Gastric Motility in Different Types of Habitus" appeared in 1922 and follows as a result of his first great work on Habitus. His work on the "Radium Treatment of Cancer of the Esophagus" illustrates his wonderful technical skill. His clear vision and sound philosophy are portrayed in the paper entitled, "The Relation of Roentgenology to Clinical Medicine, with Special Reference to Gastro-enterology."

His method was simple and direct. In his daily clinical work he noted every phenomenon with which he was not acquainted, catalogued and filed his observations for future reference.

In the great mass of clinical material which he collected lie concealed many important physiologic observations such as the hypothesis of the transmission of gastro-intestinal tension, small intestinal recoil, peripheral colonic motility, etc. His mental equipment for scientific work was ideal. A steady indefatigable investigator and a keen observer, he possessed a tremendous capacity for continuous labor and a clear discriminating judgment. He was a painstaking genius who put into his work the spirit and enthusiasm of the great artist.

His medical colleagues knew Mills as a ready, forceful speaker and the tedium of many a society meeting was enlivened by his witty and epigrammatic discussions. One epigram may be mentioned here, viz., "A can of baking soda in a patient's pocket is stronger evidence of duodenal ulcer than the occult blood reaction."

When his own attainments were concerned he was modesty itself. A noted angler and lover of nature he once related to a group of friends the fact that he had, while in the wilds of Canada, canoed so close to a cow moose that he was able to slap her on the back with the paddle. After the laugh had subsided over the impossibility of such a feat, he quietly submitted a photograph his companion had taken verifying the truth of the story.

He passed away in the midst of great achievement. He had climbed the heights and envisioned the great productive field of research before him. His chief regret in going was that he must leave behind this great *unfinished work*. We of this generation will probably not meet his like again. When we come to consider the character of our friend, his high courage, tenacity of purpose, prodigious energy and boundless enthusiasm—with his simplicity and personal charm—we feel that his loss is irreparable. The poignancy of our grief is allayed by the thought that we loved and appreciated him while he was here in our midst. We take comfort that he accomplished much of the tremendous task he set for himself in the brief years of his glorious and useful life. Finally we hope that the fire he kindled is not extinguished but that its light will continue to point the way to the Eternal Truth.

HORACE W. SOPER.

AN EXPRESSION OF APPRECIATION.

For the past ten years it has been my honored privilege to work by the side of the late Dr. Mills, to have everything in immaculate readiness for him, to protect him at every turn, and to send him home after the day's work with lips curled into a smile of satisfied pleasure.

It is exceedingly difficult to believe that Dr. Mills is gone, that a life so invaluable has come to a premature end. Why is it we feel our loss so keenly? What was there housed in this frail masculine body that shone forth from those soft blue eyes which demanded respect, but which could also strike terror into one's heart? What was there in his rich mellow voice that made you love him? Why did this man lash and sting at coarse dullness? The answer is Dr. Mills made life a "beautiful, significant, high thing." Such charm, such fascination, such bigness can only come when the individual has a "perception of excellence." He concentrated every effort to attain perfection. The Doctor's very soul yearned for excellence.

His workshop hummed with accuracy. He studied abdominal pain and palpable findings with a red crayon pencil, a centimetre rule, bold nimble fingers, and a fluoroscope. He was an artist-anatomist of the caliber of Leonardo da Vinci—with one exception—"Leonardo was forever collecting things and then forgetting where he put them." Not so with our Doctor. His records were given careful consideration, they were instantly available they served a great research function.

There never was the slightest question in the mind of Dr. Mills but that first above everything else the patient must be served and served well. This is the foundation upon which he built his institution, this is the monument Dr. Mills leaves to St. Louis—service to the patient. The essence of this great purpose is summed up in the Doctor's own simple way when he says, "I believe in doing good to the living."

May the memory of Dr. Mills be a daily incentive toward mightier, nobler, loftier aspirations.

ADELE AEGERTER,
Dr. Mills' Secretary.

IN MEMORIAM—

RALPH WALTER MILLS, M.D.

Special Meeting of the St. Louis Medical Society and the Washington University Medical School,

SUNDAY, MARCH 16, 1924.

Auditorium, Washington University Medical School.

DR. ROLAND HILL: This meeting is called today in honor of one of our most distinguished medical men, Dr. Walter Mills. Dr. Mills was one of the most brilliant of the medical profession and did as much as any one of our members living to advance the prestige of St. Louis medicine. He was a distinguished

member of the faculty of this University and that was a big factor for the calling of this joint meeting of the general medical profession of St. Louis and medical body of the University. I have today been handed a letter from Mr. Robert Brookings to Dr. Marriott, which is a tribute to Dr. Mills.

LETTER FROM MR. BROOKINGS.

"My dear Dr. Marriott:

To say that any man is the undisputed leader in any branch of medicine in this day of brilliant service is rather a broad statement and yet I believe the medical profession who are familiar with his X-ray work will unanimously concede this position to our lamented friend, Dr. Mills. Conscious of the growing importance of the X-ray both in diagnosis and treatment I have for years impressed upon Dr. Mills the vital necessity of his transmitting as much of his skill and genius as possible to those who are to carry on the work when he has gone—and in the prime of life at the very apex of his service he has been suddenly and tragically taken from us. To my own personal sense of loss I can only add that I feel in Dr. Mills' death our Medical School and medical science generally has met with a real calamity.

Sincerely,
R. S. BROOKINGS."

DR. HANAN W. LOEB: On the first of October, 1899, a young man presented himself for registration in the Marion-Sims College of Medicine, of which I was at that time Secretary. He was a quiet looking young chap with deep-set eyes, unimpressive in his appearance and extremely diffident, or at least bashful. After some little conversation I learned that he was a Bachelor of Science from the University of Illinois, who desired to take advantage of our requirements which at that time permitted a university graduate to complete his medical work in three years. He was regularly admitted into the sophomore class on this basis and in the course of the next three years made up the deficiencies of his first year. This was my first introduction to Walter Mills, or as he gave his name, Ralph Walter Mills.

Entirely bereft of any outward expression of the fire that was in his soul, the first impression one gained was merely that of a somewhat diffident, thoughtful student without dash or enthusiasm. In the three years during which he attended he justified the impression of thoughtfulness, modesty and earnestness, but he drove far beyond the evidence of spirit, thoroughness, and happiness in his work that his features suggested.

It was some time after he had been in school

that I learned of his artistic ability and only by dint of earnest solicitation was I able to get him to show me the wonderful work which he had done in illustrating the various species of fish in the State of Illinois. My complimentary references to them fell on deaf ears and from his bored expression I learned that if I were to establish closer contacts with this young man it would be necessary to respect his modesty.

I learned casually afterwards that he was Varsity track champion for the 220-yard distance. Later in life I was to learn many other side lines in which his superiority had been established. So far as he was concerned himself, however, he carefully kept all of these high qualifications from public view, not as so frequently happens to spring them suddenly and enjoy the distinction of spontaneity, but because his soul rebelled against any expression of pride whatsoever.

His work throughout his school life was true to type and he qualified as one of the three highest men in the class, but without exciting any particular notice and certainly without any envy on the part of his schoolmates. He was just a sturdy student, earnest and devoted, loving his work for the work's sake and keeping in mind that the achievement of a medical education was the goal to which he should press forward with all the energy of his soul.

During his first year he made the acquaintance of the well beloved Jesse S. Myer, who was at that time teaching physiology and clinical chemistry and microscopy in the institution. I know how much of an inspiration he was to Mills and I know how much Mills succeeded in profiting by his instruction. Myer was one of a group of young men who attended the old Marion-Sims for a number of years before and who had acquired from another teacher, Hugo Summa, a devotion to medical science, literature and study that stood them well throughout their whole life. Summa at that time was a young man full of the ideals of medicine, conversant with the literature and brimming over with enthusiasm as a teacher. He always had two or three of the students at his office, generally the best of our class, whom he had picked out for his personal instruction day by day. Among those was Myer, who I think was the peer of them all, and he himself followed the practice of his preceptor. Much of Mills' enthusiasm and development, I am sure, was due to the personal instruction and the training which, as a student, he received from Myer and to his influence which left its impress on his whole life.

Other men will tell of his work as a practitioner of medicine, as an artist and as a man. To me he is still the young, eager, modest

student with the deep-set eyes looking, seeking, yearning for more knowledge. In the later years, whenever I met him, after his achievement of a high position in his favored field, the picture still stood before me of the first time I saw him when he came with the ground work only for the great position which he was to occupy.

"No man less proud than he,
Nor cared for homage less;
Only he could not be
Far off from happiness."

DR. EVARTS A. GRAHAM: To attain moderate excellence in one's work is for most men a sufficient success. But to ambitious men like Mills nothing is satisfactory that falls short of perfection. We whose pleasure it was to work with him daily know full well how close he came to the attainment of a degree of successful accomplishment which was little short of perfection in his chosen field of diagnosis of conditions of the gastro-intestinal tract. My own all too brief acquaintance with him began in the fall of 1919. I can still vividly remember with what amazement I heard him say a few months later that a patient of mine whom he had been studying had an adenoma of the stomach. I regarded the X-ray diagnosis of such a condition as impossible and I can well remember my skepticism. But that was because I did not know Mills and his capabilities. To those of you who knew him and his work it will be no surprise to hear that a few days later at operation I found an adenoma. More than four years now since the removal of that adenoma the patient is entirely well. Could anything be a more startling confirmation of the super-excellence of this master? His fame was wide-spread and was international as well as national.

His technical accomplishments can be more adequately discussed and presented by those who themselves are experts in this kind of work; and I suppose that Dr. Carman will tell you of these accomplishments. To me the most fascinating characteristics of Mills were his scientific spirit, his thoughtfulness of others, and his versatility.

An uninformed observer who watched Mills at the fluoroscope making examinations with lightning speed would be perhaps justified in thinking either that there was something of the magician about him or that his diagnosis must rest on a very insecure foundation. But after all, that was surely because he saw a master at work. There was no chicanery and no haphazard process in it. The keen observation which could in a moment detect an abnormal condition where other eyes, less keen, might see nothing had arrived at its perfection only

through the tireless effort spent during many years in the school of hard work. There is no short cut to great attainment. In science, particularly, there is no "get-wise-quick" road to success. Sometimes, it is true, a great discovery comes with astonishing suddenness, but, in the words of Pasteur, it is because an idea has come to the mind prepared to receive it. Mills' life was a striking example of these platitudes. Despite the astonishing speed with which he seemed sometimes to arrive at a diagnosis his methods in reality were most laborious. The thousands of carefully kept routine records bear witness to the painstaking character of his work, records which because of the great care with which they have been made, will yet reveal new important generalizations of truth even although the author of them has passed on from amongst us.

Mills had the truly scientific spirit. His indefatigability in recording the most minute observations, his painstaking accuracy, his search for and discovery of new truths, all exemplified this scientific spirit. I am reminded in this connection of Sir Michael Foster's definition of a fruitful scientific mind:

"In the first place, above all things, his nature must be one which vibrates in unison with that of which he is in search; the seeker after truth must himself be truthful, truthful with the truthfulness of Nature. For the truthfulness of Nature is not wholly the same as that which man sometimes calls truthfulness. It is far more imperious, far more exacting. Man, unscientific man, is often content with 'the nearly' and 'the almost.' Nature never is. In the second place, he must be alert of mind. Nature is ever making signs to us, she is ever whispering to us the beginnings of her secrets; the scientific man must be ever on the watch, ready at once to lay hold of Nature's hint, however small, to listen to her whisper, however low. In the third place, scientific inquiry, though it be preeminently an intellectual effort, has need of the moral quality of courage—not so much the courage which helps a man to face a sudden difficulty as the courage of steadfast endurance." To an unusual degree Mills had all these requirements.

To those who were most intimately associated with him his thoughtfulness of others was always striking. I remember that on many an occasion he discussed with me his worry that perhaps his assistants in the X-ray department were compelled to work too hard, that perhaps he was driving them too much. There was never any thought in his mind, apparently, that he might be driving himself too hard. He did expect hard work from those with whom he was associated, but he made no greater demands from others than he made upon himself.

Even in the sudden shock of the information that he had leukemia one of his chief concerns was whether or not his assistants in the department were adequately protected against the injurious action of the X-rays. With prophetic insight, but yet with unflinching courage, he expected that some day he would fall a victim himself to the X-ray, but he had the earnest desire that none of his assistants should be so afflicted.

Many men of superior attainment in one thing excel in others also. Mills also showed a remarkable versatility. He was an accomplished artist, a musician who although without conventional training could find rest and inspiration in playing the works of the great composers. He was also a great lover of nature and he found his chief relaxation in long walks alone through the woods or in going out fishing.

In honoring today the memory of our great colleague let us think also of one of his fondest hopes for carrying on his splendid work. He often discussed with me his ardent wish that some day Washington University would be able to enlarge its X-ray facilities and create a Roentgenological Institute. Could anything be a more fitting memorial to our beloved colleague than a Mills Roentgenological Institute! "The wisest man could ask no more of fate Than to be simple, modest, manly, true, Safe from the many, honoured by the few; Nothing to count in world, or church, or State, But inwardly in secret to be great; To feel mysterious Nature ever new, To touch, if not to grasp, her endless clue, And learn by each discovery how to wait, To widen knowledge and escape the praise; Wisely to teach because more wise to learn; To toil for science, not to draw men's gaze, But for her love of self denial stern; That such a man could spring from our decays Fans the soul's nobler faith until it burns."

(E. F. Smith.)

R. WALTER MILLS, M.D.

1877

1924

A TRIBUTE.

DR. R. D. CARMAN, Rochester, Minn.: In 1910, R. Walter Mills, then a young practitioner of medicine, returned to St. Louis after a few months sojourn in Europe. I had known him as a student with a pleasing personality and a bright mind, alert for all the facts and theories of medicine. I had known him also as an artist of ability, and his drawings were appearing on the pages of medical books and journals.

While abroad, Dr. Mills had devoted his attention to internal medicine and especially to

diseases of the digestive tract. About that time Rieder, Holzknecht, Faulhaber and others were investigating the radiology of the digestive tract, but their work was not yet taken seriously. Some of their papers had come to my notice and I was trying to apply their methods. When Walter came home I learned that he had given little attention to the X-ray side of the subject. I gave him some of the literature. He read it avidly. It offered a hope of objective diagnosis and his interest rose to white heat.

Walter came to work with me at the old University Hospital on Jefferson Avenue. Our knowledge was scant, our work was crude, the surgeons and clinicians were skeptical, but we were never cast down. Who could lose courage with Walter about?

Stimulated by his observations he determined to make another trip abroad. I urged him to visit Vienna where the greatest advances had been made. This he did, spending several months with Holzknecht and Haudek.

From our examinations certain facts soon became apparent. For one thing the stomach depicted in the text-books was ideal, not real. The real stomach varied as to form, size, position and functional behavior according to body build. No single, standard, normal stomach existed; there were *many* normal stomachs. We emphasized this fact in our first joint paper and I shall never forget the many interesting hours I spent with him in its preparation. Walter continued the work on habitus after I left St. Louis and his skill in drawing fitted him especially to carry it on. Many other fine things he did, but that, I think, was his outstanding achievement, his greatest contribution to American roentgenology.

What followed you know. Elected to membership in many societies he soon ranked with their leaders. He made new and steadfast friends everywhere. His activities increased. The radiology of the small bowel and colon interested him deeply and he planned to study them intensively. When he became aware of his impending doom, Walter had no fear, but regretted only that he could not finish these investigations.

However complex may have been the causes of his death, there can be little doubt that his exposure to the X-ray was an important factor. As he served the cause of roentgenology in life, so even his death may serve to warn his co-workers of their danger.

It is scant justice to say that Walter Mills had a bright mind, for it was truly incandescent, crowded with a tumult of thoughts. Much of his thinking was intuitive and problems that most of us mull over and clumsily reason out were solved by him in a flash.

Deft with his pencil, he was no less an artist with words. All the finer shades of meaning were at his command. His sketchy verbal cartoons were more convincing than long and logical argument. He could not be narrow. He saw from many angles of view at once and he realized that the truth we all seek is many sided.

Though deeply occupied with the complex phases of a special science he was none the less a philosopher. For example, in an address on the relation of roentgenology to clinical medicine, he showed his depth of thought as well as beauty of expression. Speaking of gastro-intestinal roentgenology he said: "It has no limitations. The limitations are our own. Its only weakness is in its strength, in that it displays a living pathology so bewildering that we are as yet unable to arrange much of the evidence to fit present conditions." Then, without attempting to forecast the future, for he denied the gift of prophecy, Dr. Mills considered the various methods of practicing roentgenology, whether as an isolated specialty, or of dividing it into sub-specialties, or making it a part of the clinical examination. The gain and loss from each of these methods he set forth clearly and fairly, but left his hearers to choose as they wished.

I would not laud him beyond his just deserts or paint him as a superman. With his saving sense of humor he would be the first to laugh at unearned praise. But, in sober truth, he was rounded out and balanced well.

On the last evening of his life I went to see him. "Are you in pain, Walter?" I asked. "No, Carm," he said, drowsily, "but I am so tired—so—tired." That night he rested forever.

It is not for us to pity his passing, but to exult over what he was and what he did, to be glad that he lived, worked faithfully at the plans on the trestle-board of the Great Architect, loved his fellowmen, and has laid him down to an untroubled sleep.

Walter Mills—genius, good fellow and good friend—I salute you! Hail and farewell!

PERSONAL REMEMBRANCE.

REV. DAVID M. SKILLING, D.D.: I bring to you today, in this memorial service, just a few personal observations which I feel sure you will be glad to share with me. You loved Doctor Mills dearly, and I loved him too, and we may speak very familiarly of him to each other. While listening to the excellent addresses of the gentlemen who have preceded me the words of Robert Burns, which came to me a few days ago as I thought of our friend, were strongly emphasized. You remember

how Burns, in his lament for his friend, the Earl of Glencairn, cried out:

"Oh, why has worth so short a date?
While villains ripen grey with time
Must thou, the noble, generous, great,
Fall in bold manhood's hardy prime?"

Dr. Mills seemed so necessary to us that his going in the midst of his apparent greatest activity and usefulness appeared to us a terrible thing; and we asked: 'What does it mean?' In this Providence, I believe God is teaching to the medical profession and to the world a great lesson today. The work so well done by this great man is a preparation and a sure foundation for the men who are following and who will carry it on. The profession is richer today because of the knowledge given to it through the mind and heart of Walter Mills, and the whole world is better because he lived in it; and thousands throughout the world rejoice today over his memorable accomplishments. I desire, however, to speak of a phase of his life that perhaps was not so well known to his fellow physicians. Sometimes a clergyman enjoys the privilege of a very close, personal relationship to a physician. I was reared in a physician's home and when I became a clergyman I had some conception of the relationship that ought to exist between the physician and clergyman; but I believe I learned more of the possibilities that are in that relationship through my tender association with Walter Mills than I ever could have learned elsewhere. He frequently came to my study, especially in the beginning of his general practice, and confidentially talked over with me the plans that were maturing for his noble work as a specialist. As such he felt he could render a greater service to humanity. While his heart was set upon that, he in no wise neglected nor belittled his general practice. The demands upon him became more and more exacting—far beyond his physical strength—but he never gave up. How tender he was! How considerate of his patients! I recall a stormy night in winter when he was called to see a patient in the country who was critically ill. He sent for me and asked me to go to him and remain with him a while as he cared for his patient. When I reached the house he said: "This man is going to die and I am not going to leave him and I want you to be with him too." We staid with the grief-stricken family through the night. I think he never received a fee for his service; but I am certain that no man in all time ever worked more intelligently, skillfully and tenderly in the effort to restore a life than he did that night. My words cannot adequately describe the scene, for I have never seen a man give himself more completely in the effort

to help another than he did that night. When Ian Maclaren was in our country a few years ago I was on the platform with him one evening when he read from "Beside the Bonnie Brier Bush" the chapter descriptive of the faithful Doctor, "Wheelum MacLure." I asked him if "Wheelum MacLure" was a real character or purely fiction. His reply was: "There are many Wheelum MacLures." A man does not have to reach the age of seventy or eighty years in order to become a Wheelum MacLure. Our friend was a Wheelum MacLure in his general practice, and I know full well that he was also in his great work as the specialist. Another thing that impressed me in my relation to him was his patience. His was a nervous temperament and his patience was all the more marked because of that. He was most diligent as a student. He thought the problem through and was not satisfied until the subject was clear as a picture before him. If an appliance needed was not at hand he invented one. There seemed no limit to his resourcefulness. His patience was evident in his contacts with people. He drew a fine distinction between sensitiveness and coarseness. He was a real strength to a sensitive nature through his tender sympathy and kind and considerate speech. He knew well how to deal with a coarse nature. With such a person he was kindly, firm and easily recognized as a friend whose purpose was to help. He was a courteous Christian gentleman. He did not wear his religious experiences on his sleeve; but his religious life was real. I am sure that in his walks through the woods he looked through nature up to nature's God and found that within him which taught him to worship God. It has been said today that he "loved the animals, birds, fish." A family of owls has its home in Forest Park. I presume the owls have scarcely ever been seen by the people who throng the park; but he saw them and knew them and fed them. The quail in the park were his intimate friends and he fed them every day. If in the morning he was unable to go to them because his patients were waiting for him in his office, he would hurry home at noon ostensibly to have his lunch there, but really in order that he might feed the quail. He loved the country and the people who lived there. When he spent the week-ends at his little country place among the hills near Eureka, Mo., he went on Sunday to the Sunday-school which met in the district school house, and played the piano for the school. He himself arranged for the purchase of the piano. It is said that at the Christmas season he was the true benefactor of the people. On one occasion a certain clergyman was to undergo a severe surgical operation. He had been warned by Dr. Mills against conduct-

ing his Church services on the Sunday before the operation. In spite of the warning he persisted in conducting the morning service. At its close, Dr. Mills made his way down the aisle to speak to the clergyman, who said to him: "You were not in the audience today; why did you come in so late?" He answered, "I was in the vestibule through all the service. I did not want you to see me; but I feared you would need me and I wanted to be near you." A physician who can do such great things in his office and yet can bring his great heart into touch with the people who are in such need is the true man of God and bears the stamp of Heaven's approval, and is the lover of his kind. The success of a physician can never be measured by material standards, but by that approval of God which the world cannot give nor take away. Few physicians, if any, are fully appreciated here; but the world's great need is a constant appeal to them—even if ingratitude is the only open evidence of reward. Bishop Phillips Brooks said on one occasion: "The world's ingratitude to Jesus Christ showed Him how much the world needed Him." The failure of the people to fully appreciate the self-sacrificing physician only shows him how much the world needs him. The work of Walter Mills was far greater and of more vital importance than the world has appreciated. His reward is not in material success, but in the help he has given to humanity and in the approval of eternity.

GEORGE B. WILLIAMS, M.D.

Dr. G. B. Williams, of Flat River, a graduate of Beaumont Hospital Medical School (now the St. Louis University School of Medicine) 1893, died at his home February 10, aged 60 years.

Dr. Williams began the practice of medicine at Desloge, Mo., in 1893. In 1898 he removed to Flat River, where he continued in active practice until the time of his death. He had been a member of St. Francois County Medical Society for more than fifteen years.

LEONIDAS C. ROSS, M.D.

Dr. Leonidas C. Ross, of Springfield, a graduate of the Missouri Medical College (now Washington University Medical School), 1891, died at his home February 4, aged 64 years.

Dr. Ross was born at Ebenezer, Mo., and obtained his preliminary education in the public schools of Greene County. He practiced at Winona, Mo., for about twenty years before locating at Springfield, where he practiced until his death. He was a member of Greene County Medical Society.

JOHN T. THATCHER, M.D.

Dr. John T. Thatcher, of Oregon, a graduate of the Homeopathic College of Medicine, Detroit, 1874, died at his home February 11, aged seventy-three years. Had he lived just one day longer he would have practiced in Missouri fifty years, having been licensed by Missouri February 12, 1874.

In 1879 Dr. Thatcher located in Oregon and in 1880 was married to Miss Julia Gearhart, who died one year later. In 1883 he married Miss Kate Evans, who survives him.

Dr. Thatcher was a member of the school board, serving as secretary for the last twenty-five years. He was also very prominent in lodge circles, being Past Noble Grand of the Odd Fellows, Past Master of the Masonic order, also serving as secretary of the latter organization for twenty-eight consecutive years. In 1904 he was appointed a member of the State Board of Health by Governor Folk, and served until 1908. He was a member of Holt County Medical Society for a number of years and in 1923 was made president of that body in appreciation of his long and faithful service.

WARREN E. HARLAN, M.D.

Dr. Warren Elmer Harlan, a member of the St. Louis Medical Society since 1908, and of the Missouri State Medical Association and American Medical Association, died of pneumonia at his home in St. Louis, on January 16, 1924, aged 47. He was a graduate of the St. Louis College of Pharmacy, 1897, and Barnes Medical College, class of 1902, and was in active practice in St. Louis continuously. Surviving him are his widow, one son, and his mother.

Dr. Harlan was an active member of several Masonic fraternities, including the Knights Templar and the Shrine, and was also Past Grand Sachem of Missouri of the Improved Order of Red Men. Although denied active war service for physical reasons, his usefulness was of such a character that he was made honorary member of the Marine Corps Club.

Gentleness, kindness, loyalty to his profession and to his friends were his outstanding characteristics.

H. D. C.

Bulletin St. Louis Medical Society.

TREATMENT OF CHRONIC NEPHRITIS WITHOUT EDEMA.—James S. McLester, Birmingham, Ala. (*Journal A. M. A.*, July 9, 1921), insists that the patient with chronic nephritis without edema should be studied as a whole and treated as a whole. He should be permitted a fairly well balanced low calory diet with small amounts of meat and very little salt; and, lastly, his entire life should be so reoriented as to obtain for him an abundance of rest, some peace of mind, and a fair amount of play.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Chariton County Medical Society, December 13, 1923.

Madison County Medical Society, January 19, 1924.

Platte County Medical Society, January 22, 1924.
Cape Girardeau County Medical Society, January 24, 1924.

Dent County Medical Society, March 5, 1924.

Howell County Medical Society, March 11, 1924.

Taney County Medical Society, March 20, 1924.

Vernon County Medical Society, March 22, 1924.

MISSOURI STATE MEDICAL ASSOCIATION
67TH ANNUAL SESSION

Springfield, May 6, 7, 8, 1924

PRELIMINARY PROGRAM

Donald Black, Kansas City: Studies in Gout.

W. T. Coughlin, St. Louis: Title to be announced.

E. R. Dewese, Kansas City: Methods Which Will Lessen the Time Necessary for Complete X-Ray Studies of Abdominal Conditions.

William W. Duke, Kansas City: Common Manifestations of Allergy Observed in Clinical Practice.

John A. Ferrell, New York City: Title to be announced.

E. A. Graham, St. Louis: Title to be announced.

Claude J. Hunt, Kansas City: Medical and Surgical Problems in Peptic Ulcer.

Charles E. Hyndman, St. Louis: Acute Surgical Abdomen.

E. H. Kessler, St. Louis: Our Roentgen Mistakes.

Ralph A. Kinsella, St. Louis: Title to be announced.

Bransford Lewis, St. Louis: Urologic Diagnosis for the General Practitioner.

Ray C. Lounsberry, Springfield: The Treatment of Superficial Skin Cancer by Electrocoagulation in Conjunction with Quartz Light Therapy.

Neil Moore and J. C. Lyter, St. Louis: Calculi in the Upper Urinary Tract.

George Clark Mosher, Kansas City: The Methods of Reducing Maternal Mortality.

Frank C. Neff, Kansas City: Title to be announced.

W. H. Olmsted, St. Louis: Some Practical Suggestions in the Use and Administration of Insulin.

R. J. Payne, St. Louis: The Injection of the Nasal Ganglion in Hay Fever.

Wm. A. Pusey, Chicago: The American Medical Association and Its Constituent Societies.

Paul C. Schoebelen, St. Louis: The Management and Clinical Results of Deep Therapy in Tumors of the Bladder and Prostate.

Clinton K. Smith, Kansas City: Stone in the Ureter.

Dan G. Stine, Columbia: Influence of the Etiology Upon the Treatment of Pneumonia.

Paul B. Stookey, Kansas City: Treatment of Cardiovascular Leses.

Park J. White, St. Louis: Parenteral Infections as a Factor in the Production of Autonomic Imbalance in Infants.

T. Wistar White, St. Louis: Some Experiences with Meningitis; with Report of a New Sign.

John Zahorsky, St. Louis: Practical Experience With Quartz Light in Diseases of Children.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One Hundred and Second Meeting, Feb. 11, 1924

1. REPORT OF CASES.

A. PERNICIOUS VOMITING OF PREGNANCY TREATED WITH GLUCOSE AND INSULIN.—By DR. RALEIGH ANDREWS.

Patient, married woman, age 18.

Admitted to hospital January 26 with history of vomiting.

Family and Past Histories unimportant.

Menstrual History.—Patient began at 13 years, 28

— day periods, no irregularities, slight cramping 4

at beginning of period.

Marital.—Married at 15 years. First pregnancy accompanied by great deal of nausea and vomiting with miscarriage at 4 to 5 months.

Present illness began with vomiting about December 26, 1923. Last menstruation November 22, 1923. Since first week in January patient had had constant nausea and vomiting, retained practically no food and no fluids excepting water week preceding admission to hospital; even water was vomited containing considerable bile.

Course in Hospital.—Admitted January 26, with marked dehydration. Blood pressure 120/70, pulse 114, temperature ranging from 97 to 99. General physical essentially negative. Blood count 8,300. Hemoglobin 73 per cent. Red blood count 4,300,000. Urine showing faint trace albumin, specific gravity 1.028 with diacetic and acetone positive, occasional granular cast. Patient taken off all foods by mouth, given normal salt solution subcutaneously, 200 cc. of 3 per cent glucose and 2 per cent sodium citrate per rectum every four hours. The subcutaneous fluids were discontinued after the second day. She was allowed sips of water by mouth and liquid food after the fourth day, but vomiting continued to the time patient was seen in consultation February 6. At this time nasal tube was inserted and 800 cc. of carbohydrate fluid was given through the tube and 500 cc. of 20 per cent glucose given intravenously. The following night she excreted 33 grams glucose in urine per 1,000 cc., the urine containing diacetic acid and acetone. There was still some vomiting and nausea.

Until February 7 she was given 270 cc. carbohydrate fluids through the tube, also 700 cc. of 50 per cent karo syrup and 1000 cc. of 20 per cent glucose intravenously. During the 12 hours she was given 80 units of insulin. The day urine with the insulin showed 20 grams sugar to the 1000 cc. Night urine showed 16 grams to the 1000 cc. On February 8 vomiting and nausea had entirely ceased and she was given food by mouth. With the cessation of high sugar intake the urine contained only a trace of sugar, no diacetic acid and a trace of acetone. No further insulin was given. The patient continued to improve although a distaste for food persisted. No vomiting occurred. She was allowed up in a rocking chair on February 14 and was to be discharged the next day, when she aborted.

The case is of interest from the fact that these patients when placed on a high carbohydrate intake, which is essential, spill over sugar in the urine from their low renal threshold and that this carbohydrate can be utilized if insulin is given intelligently. The fasting blood sugar before insulin was given and while she was getting a moderate carbohydrate intake

and showing sugar in the urine was .12 per cent. After 80 units of insulin during the day and excessive carbohydrate intake her blood sugar was .09 per cent.

DISCUSSION.

Dr. Kinsella: Is that the only case in which this treatment has been used?

Dr. Andrews: As far as I know, it is.

B. AMBLYOPIA FOLLOWING HEMORRHAGE.—By DR. LAWRENCE POST.

This six-year-old girl with normal family and past history was very ill with influenza one year ago. Repeated severe epistaxis followed this illness. After an especially exsanguinating hemorrhage four months after the influenza, the child was noticed to have very poor vision and always to look above the object to be seen.

Examination showed optic atrophy in each eye, more advanced in the left. Visual fields revealed an entire absence of the upper field in each eye including the fixation points. Vision was about 2/60 eccentric in the right eye and 1/60 in the left. Hemorrhage was due to a thrombo-plastic purpura.

Visual defects following hemorrhage are rare, about two hundred having been previously reported. There is probably some underlying toxemia because the amblyopia seldom comes on at once but usually from four or five days to three weeks after the hemorrhage and because the condition has been reported only three times after the so frequent severe hemorrhages following wounds. The commonest association is with uterine bleeding or bleeding from the gastro-intestinal tract. About 8 per cent have followed epistaxis but I have found no other case resulting from hemorrhage associated with purpura.

A splenectomy was performed which greatly improved the condition of the blood, but had no effect on the vision.

2. CHANGES IN THE BLOOD OXYGEN FOLLOWING THERAPEUTIC BLEEDING IN CARDIAC PATIENTS.—By DR. SAMUEL B. GRANT.

This study was undertaken with the idea of obtaining data concerning the effect of therapeutic blood letting in the treatment of acutely decompensated cardiac patients.

Seven cardiac patients, acutely decompensated, with symptoms such as orthopnea, cyanosis, enlarged liver, subcutaneous edema, pulmonary edema, etc., were used. Samples of arterial and venous blood were taken from the vessels in the arm before bleeding, and again one and one-half to three and one-half hours afterwards. The samples were immediately analyzed for oxygen content and oxygen capacity in the modified Van Slyke apparatus.

In five of the cases, in which complete data was obtained, it was found that the coefficient of utilization of oxygen was less after bleeding than it had been before, indicating an increase in the peripheral circulation. Two cases in which the arterial oxygen saturation was considerably below normal showed a definite increase in the percentage of oxygen saturation in the arterial blood after bleeding, indicating an improvement in the efficiency of the pulmonary circulation. Both cases eventually regained compensation. Two other cases with low arterial oxygen saturation failed to show an increase in this factor after bleeding, and both eventually died during the attack of cardiac decompensation. In one patient a thoracentesis, with removal of 1650 cc. of fluid from the right chest, was followed by an increase in the oxygen saturation of both the arterial and

venous blood, indicating improvement in both the pulmonary and peripheral circulation.

SUMMARY.

1. Therapeutic bleeding of decompensated cardiac patients produced an improvement in the peripheral circulation, as evidenced by a decrease in the coefficient of utilization of oxygen.

2. When the arterial oxygen saturation was considerably below normal, and the heart not so seriously damaged as to be unable to respond to treatment, bleeding was followed by an increase in the arterial oxygen saturation, indicating improved efficiency of the pulmonary circulation.

DISCUSSION.

Dr. Strauss: When Dr. Grant started to speak about the changes following blood letting, I was wondering whether or not he considered these changes due primarily to the blood letting, or whether the changes were due to the results of the blood letting, that is to say, to the improvement in the general cardiac condition and the circulation. Then, as the paper carried on, it was noted that the same results were obtained following thoracentesis. In the conclusion he made it obvious that he felt these changes in blood oxygen concentration were not due to blood letting per se, but to the effects of venesection. I am rather interested to know whether Dr. Grant has gone further and has done any work on patients having therapeutic procedure other than blood letting, such as rest in bed, with reduction of edema, and improvement in the general circulation, or possibly results following the administration of large doses of digitalis, causing obviously rapid improvement in the general circulation. It seems to me that the question of blood letting has always been on an indefinite basis. We have felt that it was indicated in many cases, and certainly clinically, we must admit improvement. I do not remember seeing an explanation of this improvement, unless it were a lessening of the venous stasis and a decrease in the dilatation of the right heart with consequent improvement in the circulation. This work, carried to its fullest extent, showing that bleeding in cardiac patients produces beneficial changes in blood oxygen gives more certain indication of its therapeutic value.

Dr. Grant: Dr. Strauss is right in inferring that I think the changes in the blood oxygen following bleeding are due only indirectly to the bleeding, through its effect in improving the circulation, and are not directly due to the bleeding alone.

I have not followed the blood oxygen during the treatment of cardiac disease by rest in bed, digitalis, etc. Dr. Lundsgaard at the Rockefeller Hospital has studied a few cases and demonstrated that the oxygen saturation in the venous blood is at a higher level when the patient is compensated than during decompensation. In auricular fibrillation, which shows the most striking response the venous oxygen saturation varies greatly in successive determinations, so that it is difficult to get a satisfactory "base-line," and also difficult to interpret any changes in the oxygen saturation that may occur co-incidentally with any form of treatment. All of the cases reported this evening had regular cardiac rhythms, so that this difficulty did not enter into the interpretation of the results.

3. FRACTIONAL GASTRIC ANALYSIS.—By DR. J. W. LARIMORE.

Recently a number of writers have criticised the fractional method of gastric analysis. Whealon, Gor-

ham, Kopeloff and White have published articles to show that fractions of the stomach contents withdrawn periodically are not aliquot portions, and the method has on that premise been decried as not giving a dependable curve of the acidities during the digestive cycle. The practice of gastric analysis has fallen into greater disuse because of this. The improving and increasing use of the X-ray and its more direct visual approach in the examination of the stomach has also done much to discourage the practice of gastric analysis. The two methods should be used as supplementary.

White found that, without mixing, the average variation of free HCl. was 17 and of the total acid was 22, and that, with mixing, the average variation of free HCl. was 10 and of the total acid was 8.5.

Wheelon suggests the following causes for the variations: Shifting of the tube tip changes portion of stomach from which the tube delivers; rapid emptying of the stomach alters degree of acid concentration; response of given stomach to a test meal may not be usual; sudden withdrawal may have an effect; and regurgitation of duodenal contents may alter the gastric acidities. It is admitted that these factors can operate to disturb the value of the aliquot samples of the gastric contents but in the experience as recorded in this paper they have not operated with any disturbing frequency.

This experience shows that the curves of the gastric secretion as revealed by fractional analysis show an ascending gradient followed by a descending gradient and that accidental variations of the aliquot fractions are not of a degree or frequency as to vitiate these curves. Among these twenty-four hundred and eighty-seven (2487) titrations of twelve hundred and forty-four (1244) samples in two hundred and seventy-five (275) curves there appears a contrary variation from this usual gradient once in one hundred and twenty-three (123) curves and twice in twenty-nine (29) curves, and in only 10.5 per cent of the titrations. Such conformation to the curve gradient would seem to contradict the results of White, Wheelon, and Gorham, although White also made attempts to mix the contents, as was done in these analyses.

In the twelve cases having two or more gastric analyses there was a correspondence in the repeated curves, or a variation consistent with the clinical and X-ray findings in the cases. This small experience in repeated curves has shown a lack of variation or reliable consistency to the clinical status.

This summary of the clinical experience with fractional analysis has given the author an assurance in its validity in demonstrating the physiological response of the stomach to the factors of the method. The extent to which the data developed by this method of gastric analysis may be diagnostically or therapeutically useful is more limited than has been claimed for practical deductions from analogous data in the past. The valuable data of gastric secretion has not been better developed than by this method. It does demonstrate alterations in gastric secretions and motility which are more or less directly diagnostic and helpful therapeutically. The demonstration of an achlorhydria is prompt and conclusive by this method.

The demonstration of hydrochloric acid in the fasting contents may obviate the need for developing the secretory curve where the X-ray is used for demonstrating gastric motility and organic changes.

DISCUSSION.

Dr. Frank D. Gorham: One fallacy of the small sample fractional method, lies in the fact that the chyme may or may not, in a given instance, be a homogeneous mixture. The acidity of different por-

tions of gastric contents, at the same phase of digestion, may vary widely. Therefore, the acidity of the small samples as obtained by the Rehfuß method may not be representative of the contents remaining in the stomach. This was proven conclusively by some published experiments, the results of which have since been verified by Kopeloff, Wheelon, White and others.

Even if the above difficulty could be overcome by some unphysiological procedure as mechanical mixing of the contents in the stomach, an interpretation of results as obtained by fractional analysis is practically an impossibility. The great variety of the so-called "acidity curves" as obtained by this method have apparently been interpreted in the light of secretory variations and not generally recognized to be the resultant of several variable factors: Acid, alkali, dilution and especially motility. Variations in dilution of the successive 15 minute samples by the fluid of the test meal are of fundamental importance in determining the "height of acidity" and the character of the so-called "secretory curve." Apperly has shown that in an artificial stomach doubling the rate of emptying produces a far higher and steeper rise of acidity than doubling the rate of acid production, except in the very early stages. The importance of motility is at once apparent as it has been proven experimentally that the emptying rate of the stomach is variable in different individuals without gastrointestinal symptoms.

4. ANESTHETIC CONCENTRATION OF ETHER.—By DR. ETHEL RONZONI.

Experiments on dogs show that the concentration of ether in blood is a function of that in the alveolar air and of the distribution coefficient at that temperature. The solubility of ether increases with an increased fat content of the blood and decreases with an increase in temperature. During administration of ether the concentration in arterial blood is always higher than that in the venous blood, a relationship which is reversed during the period of elimination of ether. The duration of the period of elimination depends upon the amount of fatty tissue and degree of its saturation which depends on the duration of the anesthesia. The rate of ventilation is an important factor in elimination, this is facilitated by stimulating the respiration by inhalation of CO₂. The disappearances of the homolateral flexion reflex to electrical stimulation occurs at a concentration between 130 and 178 mgs. per 100 cc. of blood. If anesthesia is induced as rapidly as possible the respiration ceases when a concentration of from 190 to 237 mg. per 100 cc. is reached. After a long anesthesia, of from 4 to 5 hours, 155 to 195 mg. is sufficient to paralyze respiration which is an anesthetic concentration of 3.55 to 4.47 volumes per cent.

5. THE HORMONE OF THE OVARIAN FOLLICLE: ITS ACTION IN TEST ANIMALS.—By EDGAR ALLEN, EDWARD A. DOISY, B. F. FRANCIS, H. V. GIBSON, L. L. ROBERTSON, C. E. COLGATE, W. B. KOUNTZ, and C. G. JOHNSTON.

The seat of production of the principle ovarian hormone is localized in the follicle. This is demonstrated by the experimental production of full oestrous conditions in spayed rats and mice by injections of liquor folliculi and extracts of follicular contents (Allen and Doisy, J. A. M. A., 81:819). This definite degree of hyperplasia in the genital tract of the test animals is equal to the maximum attained in the unoperated animal under the influence of the ovaries. Such experimental animals experience typical mating instincts. The action of the follicular hormone is primarily to cause rapid growth

and maximum function in the genital tract. Its presence causes the anabolic phase; its absence, the catabolic phase of the cycle. Injected into immature animals, it causes a rapid acceleration of growth in the genital organs which results in the premature attainment of puberty.

Therefore the follicular hormone quite completely substitutes for the hormonal function of the normal ovaries in the absence of pregnancy. From a consideration of the growth of the follicle it seems probable that the ovum must be considered the dynamic center of hormone production. It is probable therefore that the follicular hormone may be ultimately referred to the metabolism of the ovum itself.

Other points of interest follow: (a) We have not been able to demonstrate by similar methods the presence of a growth producing hormone in the corpora lutea of both oestrus and pregnancy from swine. (b) Commercial ovarian extracts tested to date have been negative. (c) Our extracts which are active when injected are negative when administered by stomach tube. (d) Injection of the hormone into pregnant animals does not interrupt gestation. (e) In much larger doses than required to cause oestrus in spayed females, it does not inhibit spermatogenesis in young males. (f) Extracts of the contents of cystic follicles are usually positive.

The follicular hormone is not species specific. From its reactions and probable method of formation we consider it to be the principle female sex hormone.

DISCUSSION.

Dr. F. P. McNalley: We have seen two interesting cases clinically, one 24 years of age, the other 27. Both were married. One had one child, the other two. One had bleeding over a period of six weeks; the other had intermittent bleeding extending over nine months. During three weeks there was profuse bleeding demanding packs. She was curetted twice, with only temporary relief. In the first case, the operation disclosed a cyst of each ovary, each the size of a small orange; one was a corpus luteum cyst, the other was a retention cyst.

In the second case, we found a cyst the size of a lemon on one ovary; the other contained a cyst the size of a hazelnut. The endometrium showed marked growth, hyperplasia. There was an increase in the size of the glands and in the size of the cells. The fluid from the retention cyst was sent to Dr. Allen, who reported positive results in his animal experiments. That from the second case was also turned over to Dr. Allen, who has not as yet completed his investigation. Both of these cysts were lined by tissue similar to the theca interna of a mature follicle. There was no definite granulosa layer but here and there a few cells were present which were taken to represent granulosa cells.

We feel that we were dealing with uterine bleeding dependent on the increased ovarian hormone contained in these follicle cysts. Both cases were cured by their removal.

Dr. Q. U. Newell: There are great possibilities in the clinical side of the question. I have been working in the dispensary with the hormone of the ovarian follicle. The first few cases that I treated did not turn out very satisfactory; these cases were hypo-ovarian cases that had not menstruated for many years and likewise had hypo-pituitary and hypo-thyroid disturbances, and one can readily see that to inject the ovarian hormone alone would not be treating the patients properly. Next I selected a few patients that were entering puberty, who had menstruated only a few times at irregular intervals and after receiving a few injections of the hormone their menstruation became regular and normal. I treated several cases of menopause, both natural and artificial

and the results were immediate. At Dr. Doisy's suggestion that I be economical with the preparation as the amount was limited and it takes some time to prepare, I discontinued the use for awhile, waiting for the ideal patients to give the proper tests; i. e., young women in whom the ovaries have been removed leaving the uterus intact. This of course you know, is not an easy problem.

There are many things to be worked out in the clinical side pertaining to the dosage, time of administration, etc., etc., which we hope to do in the near future.

Dr. Allen: Several preparations of amniotic fluid are being tested now. In addition to the cases outlined by Dr. McNalley of tests of fluid from cystic ovaries we have had one positive test from fluid sent in by Dr. Newell. Dr. Graham sent in 300 cc. of fluid from a very large ovarian cyst which proved to be negative. The fluid from this case had an extremely putrid odor. Results from cystic follicles of hog ovaries have almost invariably been positive.

Concerning the amount of the hormone and the number of injections to be given to patients, Mr. Johnston's experiments give some valuable indications. He has made a series of injections into the guinea-pig and monkey, which have cycles of 16 and 28 days respectively. It has taken from 6 to 10 days in these animals to get results comparable in degree to those which we get in rats and mice in two days. In other words, there is another factor beside the activity of the extract injected, namely, the reaction time of the tissues of the genital tract to the growth stimulus, and the reaction time is longer in animals having a longer cycle. For this reason it will be more difficult to obtain positive results in woman than in laboratory animals.

CLAY COUNTY MEDICAL SOCIETY

Our February meeting took place at the Snapp Hotel in Excelsior Springs, at noon, February 25. It is sufficient to say that a sumptuous dinner under the direct supervision of Mrs. Snapp awaited the twenty-five members and their wives who enjoyed the occasion. Dr. and Mrs. Ralph H. Major, of the Kansas University, were invited guests.

The scientific session followed the dinner. An amendment to the by-laws was put on the calendar to change the meeting days from Monday to Thursday. Among other minor proceedings was the appointment of Dr. J. J. Gaines as local examining physician for child welfare work, taken up by the Excelsior Springs P. E. O.

Our Society will have no chronic delinquents this year. The member in arrears on May 1 will receive a registered notice giving the delinquent the opportunity to sever his connection with our roster by non-payment, if he so desires. The place of the Clay County Medical Society as "one of the best county medical societies in the state" is always on the Roll of Honor.

Dr. Ralph H. Major gave an illustrated lecture on "Recent Developments in the Treatment and Diagnosis of Diabetes." The treatment, with a hundred charts showing the blood-sugar pictures resulting from insulin therapy, were convincing evidence of the great advancement made in the struggle with this serious malady. Members who missed this lecture may well regret their absence.

Dr. C. H. Suddarth presented a case of hydrocephalus, a child 3 1-2 years old, for clinical study. The treatment, almost since birth, involving spinal puncture and most persistent medical care, is proving victorious. The child played about the clinic hall and aside from a few characteristic defects of a minor nature, he appeared normal.

This was pronounced by those present to be one of the most instructive meetings in our history. Much regret that the report of our Liberty meeting did not appear in *The Journal* was expressed. We have friends all over Missouri who like to hear from us and in fact we like to hear from ourselves!

Next meeting, Liberty last Thursday evening in April.

J. J. GAINES, M.D., Secretary.

CLINTON COUNTY MEDICAL SOCIETY

The Clinton County Medical Society met in the directors room of the Cameron Trust Company at Cameron, Thursday, January 24. The minutes of the previous meeting were read and approved.

The financial report for the past year was read and a small balance was shown to the credit of the society. It was then voted that local dues of one dollar be added to the state dues for 1924.

Dr. A. O. Gilliland made a motion that resolutions concerning the reduction of the narcotic license fee, be adopted and sent to the House Committee on Ways and Means of the Congress.

By unanimous vote the present officers were elected to continue for another year, the delegate to the state meeting to be elected at the next meeting.

Luncheon was served at the Cameron House, after which Dr. Claude J. Hunt of Kansas City read a paper on "The Diagnosis and Treatment of Peptic Ulcer." This paper was appreciated by all present and very thoroughly discussed. A vote of thanks was given Dr. Hunt for his effort.

A good representation was present despite the bad condition of the roads.

The next meeting will be held at Plattsburg on a date to be determined and announced later.

L. A. WILSON, M.D., Secretary.

HOWELL COUNTY MEDICAL SOCIETY

A meeting of the Howell County Medical Society was held in the Odd Fellows' Hall, at West Plains, Wednesday afternoon, November 21, 1923, Dr. A. H. Thornburgh, President, presiding.

The meeting was called to order and the minutes of the last meeting read and approved. It was suggested and voted that we contribute \$50 for the good of the order to be used as a public health fund.

Everyone present was requested to supply Dr. Bingham, County Health Officer, with the names of people in their respective communities who professed or pretended to treat the sick. Dr. Bingham will furnish a complete list to the State Board of Health, also supply our secretary with the list and this will then be forwarded to our State Medical Secretary.

Dr. G. C. Plummer, of Thomasville, was present as a representative of the Oregon County Medical Society, and offered the suggestion that the Howell and Oregon County Societies combine and be known as the Howell-Oregon Medical Society. Our society signified its willingness, believing that the combination would be of benefit to all by securing a larger attendance at our meetings and enable us to accomplish more good.

Applications for membership was next in order, and we were favored by the applications of Dr. C. R. Terrill, Mountain View; Dr. Albert Wall, Willow Springs, and Dr. E. Claude Bohrer, West Plains. A committee reported favorably and they were unanimously elected. It was suggested that an effort be made to get every physician in good standing in this or adjoining counties, where they have no local society, to become a member and thereby affiliate with the State Society, believing that no doctor can afford to not be a member of some local and his state society.

Our program consisted of, first, a paper on "Head

Injuries," by Dr. R. E. Hogan, who presented the matter in such a splendid way that all of us may profit from it. It was discussed by Drs. J. C. B. Davis, Willow Springs; P. D. Gum, West Plains, and Albert Wall, Willow Springs. It was specially stressed not to underestimate head injuries, no matter how slight they might appear, but to be guarded in the diagnosis and prognosis, and wait for developments to see just what you have to deal with.

Dr. E. R. Keene, of Peace Valley, read a good paper on the "Status of Present Medical Laws," with suggestions for needed changes. This paper was of special interest to all, and a general discussion followed. It was agreed that we can do the most good by beginning at home and a committee was appointed to see our County Judges and Prosecuting Attorney and ask them to make a prohibitive license for the patent medicine peddlers and street fakirs, and to see that no one who is not authorized to treat the sick escape prosecution.

Next came Dr. A. H. Thornburgh with a well prepared paper on "Intravenous Medication." Particular stress was made on this method being the more sane way of medication, and with the proper precautions it afforded little danger and enabled you to know just when and how much medicine your patient was getting. It was discussed by Drs. Hogan, Bohrer and Cox, and it was agreed that while it was now limited largely to salvarsans and vaccines that the method was growing in popularity and was bound to become more practical.

There were present at our meeting the following physicians: D. D. Cox, Pomona; J. C. B. Davis, Albert Wall, Willow Springs; G. C. Plummer, Thomasville; H. A. Thompson, Lanton; C. R. Terrill, Mountain View; John W. Loran, Hebron; D. R. Keene, Peace Valley; A. H. Thornburgh, R. E. Hogan, J. W. Bingham, D. J. Nichols, E. Claude Bohrer and P. D. Gum, West Plains.

This was our first meeting since the summer and the attendance was good considering the distance some had to come. A program was discussed for our next meeting in December and a good attendance was urged. The matter of combining with the Oregon County Society will come up at that time, also the election of officers and plans for the coming year and the payment of dues, so our society may be placed at or near the top of the Honor Roll.

P. D. GUM, M.D., Secretary.

The Howell County Medical Society met in regular session at the Odd Fellows Hall, West Plains, Feb. 14th, Dr. A. H. Thornburgh presiding. The following members were present: A. H. Thornburgh, J. W. Bingham, D. J. Nichols, E. Claude Bohrer, R. E. Hogan, P. D. Gum, West Plains; D. D. Cox, Pomona; E. R. Keene, Peace Valley; J. D. Black, South Fork; J. C. B. Davis, Willow Springs, and visitors, J. M. Davis and G. C. Plummer, Thomasville; Paul F. Cole and Wm. J. Wills, Springfield.

The following officers were elected for the year 1924: President, Dr. D. D. Cox, Pomona; vice president, E. R. Keene, Peace Valley; secretary-treasurer, E. Claude Bohrer, West Plains.

The meeting was favored by a splendid paper read by Dr. E. Claude Bohrer of West Plains on "Nutrition and Feeding of Infants." It was discussed by a number, including Drs. Cox, Davis and Nichols. All agreed Dr. Bohrer handled a very important problem in a very scientific way and it was suggested that the paper be forwarded to our State Medical Journal for publication.

Dr. Paul F. Cole, of Springfield, then favored us with a talk on the use of X-ray therapy and radium in the treatment of cancer and various skin growths.

This talk was illustrated by lantern slides which proved very interesting.

Dr. Wm. J. Wills, of Springfield, spoke on the kidney and bladder and showed some interesting slides which he had obtained by use of the cystoscope and the X-ray.

The dues of all members are paid for the year 1924, and our Society now shows a membership of 23, a gain of 10 during the year.

P. D. GUM, M. D., Secretary.

PETTIS COUNTY MEDICAL SOCIETY

The regular bi-monthly meeting of the Pettis County Medical Society was held March 3, 1924, in the banquet room of Hildebrants Hotel, Sedalia. Twenty-eight members were present and Dr. T. E. Writeman, of Topeka, Kansas, was a visitor.

Following a turkey dinner a very excellent talk was given by Dr. P. T. Bohan, of Kansas City, Mo., on "Etiology, Diagnosis and Treatment of Heart Failure." This was followed by a clinic and a number of very interesting cases were presented.

This meeting proved to be the most interesting and instructive meeting held so far in 1924.

J. W. BOGER, M.D., Secretary.

RANDOLPH COUNTY MEDICAL SOCIETY

The Randolph County Medical Society at its meeting held Tuesday evening, December 11, closed one of its most successful years. There was no scientific program, the entire evening being taken up with general discussion and a resume of the year's work, and outlining the work for 1924.

The applications of Drs. J. F. Winn, of Higbee, and W. R. Terrill, of Renick, were received and referred to the board of censors.

The transfer card for Dr. P. C. Davis from Monroe County Medical Society was read and Dr. Davis received into membership.

There were twenty-two members present, as follows: Drs. D. A. Barnhart, G. G. Bragg and R. G. Epperly of Huntsville; G. M. Nichols of Higbee; C. C. Smith of Madison; G. O. Cuppaidge, C. B. Clapp, F. L. McCormick, L. O. Nickell, S. T. Ragan, R. D. Streeter, J. Maddox, M. R. Noland, T. S. Fleming, C. B. Lawrence, L. A. Bazan, C. K. Dutton, M. E. Lunsley, L. E. Huber, P. C. Davis and C. H. Dixon, of Moberly. Visitor, Dr. W. E. Johnson of Madison.

The following officers were elected for the ensuing year: President, R. A. Mitchell; vice-president, G. G. Bragg; secretary-treasurer, C. H. Dixon; board of censors, T. S. Fleming; delegate, F. L. McCormick; alternate, J. Maddox.

On the invitation of the secretary, all partook of a luncheon at the Fourth Street Cafe.

C. H. DIXON, M.D., Secretary.

SCHUYLER COUNTY MEDICAL SOCIETY

The Schuyler County Medical Society met in regular session in the office of Dr. W. F. Justice, at Lancaster, on Tuesday, February 19. The meeting was called to order at 2 p. m. by Dr. A. J. Drake, vice president. The following members were present: Drs. W. F. Justice, J. H. Keller, A. J. Drake and J. B. Bridges.

The minutes of the last meeting were read and approved.

The treasurer read the financial report showing \$22.68 in the treasury.

There were no papers read but a number of subjects were discussed, among which was Amendment No. 5 of the Missouri Constitution to be voted on February 26. All agree that it is to the best interest

of the people to adopt said amendment and agree also to work to that end.

The following officers were elected for the year 1924: President, A. J. Drake; vice president, J. H. Keller; secretary-treasurer, J. B. Bridges; delegate to state meeting, H. E. Gerwig; alternate, O. P. Farington.

No further business appearing, the meeting adjourned subject to call.

J. B. BRIDGES, M. D., Secretary.

SCOTT COUNTY MEDICAL SOCIETY

The Scott County Medical Society met in regular session Tuesday, January 22, in the office of Dr. C. D. Harris, Morley.

The attendance was fair and a short, interesting program was in order.

Dr. Harris presented a case believed to be a typical case of pellagra, and while this case was of great interest to all present, our limited knowledge of the disease and its characteristics rather limited the scope of discussion. While theoretically this disease is a symptom of malnutrition, we all agree that theory is one thing and practice is quite another.

Dr. Harris proved himself an amiable, worthy and entertaining host and the remainder of the evening was spent in general discussion and social intercourse.

The next meeting of Scott County Medical Society will be held in Sikeston in May.

SYLVESTER DOGGETT, M.D., Secretary.

ST. FRANCIS COUNTY MEDICAL SOCIETY

The St. Francois County Medical Society held its first meeting of this year, February 6, at State Hospital No. 4, Farmington, where a delightful supper was prepared by the hospital officials. The election of officers ensued with the following result:

President, Dr. F. L. Keith re-elected; for vice-president, Dr. T. L. Haney; secretary-treasurer, G. E. Cecil re-elected. Dr. J. H. Parker, superintendent of the hospital, and his staff, Drs. B. T. Brown and A. V. Barrett, the last named a woman physician and the first and only woman physician whose membership the St. Francois County Medical Society has ever had the honor of boasting, were admitted as members.

Dr. Parker's address of welcome was very cordial and he made a very interesting talk on medical organization. Henceforth we hope the members will take a renewed interest in the Society and that we shall have a better attendance than ever before.

A motion was made and carried that a committee be appointed to arrange a program for the next meeting. Drs. Parker, Massey and Haney compose the committee.

Drs. Smith, Whiteside and Cecil were appointed as a membership committee.

It was voted that the next meeting be held at the Y. M. C. A., Flat River, March 10, at 7:30 p. m.

G. E. CECIL, M. D., Secretary.

ST. LOUIS COUNTY MEDICAL SOCIETY

The regular meeting of the St. Louis County Medical Society was held at Webster Groves, March 12, 1924. The meeting was called to order by the president, Dr. C. P. Dyer. The minutes of the last meeting were read and approved.

A letter of resignation was read from Dr. C. A. Clemmer, formerly of Ferguson, a member of this society. Dr. Clemmer has recently moved to Florida and affiliated with the local society in that state.

The publicity committee reported that it had sent to the local newspapers copies of the resolutions adopted at our last meeting endorsing amendment

No. 5 of the constitutional amendments to be voted on at the special election February 26. The following papers published the resolution: *The Watchman-Advocate*, *The Kirkwood Monitor*, *The St. Louis Countian*, *St. Louis County Leader*, *St. Louis County Sentinel*, *The Messenger*, *Webster News-Times* and the *St. Louis Globe-Democrat*.

On motion the secretary was instructed to write these newspapers a letter of thanks for publishing the resolution.

Dr. Dyer, the president and delegate to the State Association Meeting, made a special request that as many as possible attend the Springfield meeting in May.

The revision committee reported the by-laws revised and amended. Final action will be taken at the next regular meeting.

Dr. Albert Taussig, of St. Louis, read a very interesting and instructive paper on "Heart Disease and the General Practitioner."

Discussion by Drs. Kuhlmann, Hanson, Baker, Jones, Davis, Corley and J. A. Townsend.

Dr. Kuhlmann moved that Dr. Taussig be given a rising vote of thanks, which was regularly seconded and carried.

Dr. J. H. Armstrong, of Kirkwood, presented a very rare specimen of malignancy of the uterus.

The legislative committee reported the defeat of amendment No. 5.

Those present were: Drs. Dyer, Armstrong, O'Malley, Kuhlmann, Mitchell, J. A. Townsend, Corley, Hanson, Jones, Davis, Baker and Koch.

THE PUBLICITY COMMITTEE.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY

The Ste. Genevieve County Medical Society held its annual meeting December 12, 1923, with Vice President Wilkins in the chair.

The members present were: Drs. G. M. Rutledge, J. A. Wilkins, and R. W. Lanning. Visitors were: Drs. C. J. Clapsaddle and J. J. Osterhout. The minutes of the last meeting were read and approved.

The board of censors reported favorably on the applications of Drs. C. J. Clapsaddle and John J. Osterhout for membership, and a vote being taken, they were unanimously elected members of the society.

The next order of business was the election of officers for the ensuing year, which resulted in the following being chosen for the year 1924: President, G. M. Rutledge, Ste. Genevieve; vice president, J. A. Wilkins, St. Mary's; secretary-treasurer, R. W. Lanning, Ste. Genevieve; delegate, J. A. Wilkins; alternate, G. M. Rutledge; board of censors, Drs. Rutledge, Wilkins and Lanning.

The president appointed as committee on public health and legislation, Drs. Wilkins, Shirley and Lanning.

The report of the treasurer for the year 1923 was read and approved.

R. W. LANNING, M.D., Secretary.

VERNON COUNTY MEDICAL SOCIETY

The Vernor County Medical Society was in session Thursday, December 6, from 9 a. m. to 6 p. m. at the State Hospital No. 3, Nevada. The morning hours were spent in the new surgical building where a number of operations were performed by Drs. Frank H. Rose, of Kansas City, and Fred W. Bailey, of St. Louis, assisted by the hospital staff.

The afternoon was spent in the hospital chapel. Drs. Goodwin and Bailey, of St. Louis, and Drs. Rose and G. Wilse Robinson, of Kansas City, were the speakers of the day. Numerous clinical cases

were presented which added much to the interest of the program.

The following officers were elected for the year 1924: President, Dr. J. W. Dawson, Eldorado Springs; vice-president, Geo. Morrison, Richards; secretary, J. T. Hornback, Nevada; delegate to the state convention E. A. Dulin, Nevada.

Dr. E. R. King, of Nevada, was elected to membership.

Promptly at 6 o'clock Dr. D. D. Campbell, Superintendent of the Hospital, and Mrs. Campbell, took charge of the meeting and it was a unanimous opinion that they were no novices in handling medical men's appetites.

The dining room was very elaborately decorated, a color scheme of pink and white being carried out. The one large table was in the shape of a Maltese Cross. In the center was a large silver basket filled with pink and white chrysanthemums and carnations banked with ferns. On each arm of the cross was a smaller silver basket also filled with pink and white flowers. Tall crystal candlesticks held pink candles. The tiny nut cups were also pink and white.

The following menu was served:

Celery	Oyster Soup	Olives
Roast Goose with Giblet Gravy		
Candied Yams	Mashed Potatoes	
French Peas		
Pineapple Sherbet		
Fruit Salad		
Cherry Pie with Whipped Cream		
Coffee		
Cigars and Cigarettes		

Those present were: Drs. F. W. Bailey and E. J. Goodwin, of St. Louis; Drs. F. H. Rose and G. W. Robinson, of Kansas City; Dr. L. J. Schofield, Warrensburg; E. E. Robinson, Adrian; M. P. Overholser, Harrisonville; C. A. Lusk, Butler; Drs. G. S. Walker and R. D. Haire, of Clinton; W. Cline, Appleton, City; J. W. Dawson, Eldorado Springs; C. B. Davis, Walker; G. B. Morrison, Richards; W. H. Popplewell, Sheldon; C. L. Keithley, Milo; Drs. D. D. Campbell, O. A. Schmidt, C. S. Roberts, Ables, Holmes and Hocht, State Hospital; and from Nevada, Drs. I. W. Amerman, Q. M. Brown, W. T. Bohannon, T. B. M. Craig, L. H. Callaway, E. A. Dulin, E. A. Heibner, G. C. Wilson, T. McLemore, J. M. Yater, and Smith.

J. T. HORNBACK, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met in Dr. Fuson's office in Mansfield at 2 p. m., Thursday, November 1, with the president, Dr. R. M. Norman in the chair and the following members present: Drs. J. A. Fuson and R. M. Rogers, of Mansfield; R. M. Norman and J. L. Gentry, of Ava; J. R. Mott, of Grove Springs; R. A. Ryan and L. T. Van Noy, of Norwood; B. E. Latimer, of Hartville; A. C. Ames and E. C. Witwer, of Mountain Grove.

The minutes of the last meeting were read and approved.

A resolution passed by the house of delegates of the American Medical Association at San Francisco last June was read, urging all state and county medical societies to discipline any of their members who may be found guilty of prescribing alcoholic liquors otherwise than according to the intent of the law for medicinal purposes. Fortunately we have no such members.

Dr. J. A. Fuson read a paper on "Pertussis," which was discussed by most of those present.

Dr. R. M. Rogers gave a talk on "The Good of the Order," which brought out considerable discussion on the subject of illegal practice of medicine and a resolution that the State Board of Health be requested to investigate the matter in these two counties and take steps to stop any who may be found practicing medicine without meeting the legal qualifications.

This being the date for the regular annual election of officers, the rules were suspended and the following were elected by acclamation: President, B. E. Latimer; vice president, E. C. Wittwer; secretary and treasurer, A. C. Ames; censor for three years, L. F. Van Noy; delegate to the State Medical Association for two years, E. C. Wittwer; alternate, R. M. Rogers.

The meeting adjourned at 4 p. m. to meet at Mountain Grove the first Thursday in February.

A. C. AMES, M.D., Secretary.

The Wright-Douglas County Medical Society met in the office of Dr. E. C. Wittwer at Mountain Grove, at 2:00 p. m., Thursday, February 7, with the president, B. E. Latimer, of Hartville, in the chair and the following members present: Drs. R. A. Ryan, L. T. Van Noy and J. B. Little, of Norwood; E. C. Wittwer, F. B. Dailey, J. M. Hubbard and A. C. Ames, of Mountain Grove.

The minutes of the last meeting were read and approved, also a financial statement showing a balance of \$64.68 on hand, of which \$45.00 was on time deposit drawing 4 per cent interest.

Letters were read from the secretary of the State Board of Health in regard to the proper care of biologicals and from American Society for Aid of German Science which were ordered filed, without any action thereon.

Dr. E. C. Wittwer presented an interesting paper reporting some cases of syphilis which might very easily have passed unrecognized under a less able physician.

Dr. F. B. Dailey delivered an address on "Intestinal Infections of Children," in which he outlined a method of treatment by diet, hygiene, etc., with but little medicine, which seems much more rational than the exclusive dependence upon large quantities of drugs, which has been too often the practice in the past.

Dr. A. C. Ames gave a talk on obstetrics, in which he described the minute details of his management of a normal case and asked others present to point out where their habits have been different, to the end that all present might be led to adopt the best methods in the management of this class of work which constitutes so large and important a part of the general practice of medicine.

All of the subjects were discussed by most of those present and all felt they had received benefit from the points presented.

The meeting adjourned at 4:30 to meet at Hartville May 1.

A. C. AMES, M. D., Secretary.

BOOK REVIEWS

CLINICS AND COLLECTED PAPERS OF ST. ELIZABETH'S HOSPITAL, Richmond, Virginia. Volume of 1922. Contributed by the Staff. Illustrated by Helen Lorraine. C. V. Mosby Company, St. Louis. 1923. Price, \$7.50.

This book is the first of an annual issue, containing writings of Dr. Shelton Horsley and his associates at St. Elizabeth's Hospital. The first chapter consists of several papers on hospital management. The

second section consists of numerous, brief, case reports on surgery, urology and internal medicine. The third section is made up of some forty-seven original articles by Dr. Horsley and his associates. The subjects covered include surgery, urology, internal medicine, roentgenology and comparative anatomy. Special stress has been given to tissue pathology and clinical pathology. The book contains much valuable information and should prove a valuable addition to the library. C. S.

NOUVEAU TRAITE DE MEDECINE. Publié sous la Direction G. H. Roger, Fernand Widai, P. J. Teissier. Secrétaire de la Rédaction: M. Garnier. Fascicule XV: Affections des Glandes salivaires, du Pancréas et du Péritoné. Cloth. Price, 40 francs. Pp. 568, with 135 illustrations. Paris: Maisson et Cie, 1923.

This is the fifteenth volume of the great new French system of medicine. The chapter on the diseases of the salivary glands is complete and very interesting.

The chapter on the pancreas is also good and discusses the pathology of the pancreas in diabetes at great length.

The diseases of the peritoneum are treated adequately. L. C.

PRACTICAL DIETETICS WITH REFERENCE TO DIET IN HEALTH AND DISEASE; WITH TEACHER'S DIETETIC GUIDE. By Alida Frances Pattee, Graduate, Department of Household Arts, State Normal School, Framingham, Mass., etc. Mount Vernon, N. Y.: A. F. Pattee, Publisher. 1923. 14th ed., completely revised. 687 pages.

Miss Pattee's book occupies an enviable position as a standard work for dietitians and has been largely used in all the nurses training schools in the country.

The new addition includes all the recent advances in dietetics, such as an abstract of the vitamin theory, diabetes and post-operative feeding.

It can be heartily recommended to the physicians as a safe and sane reference book, which covers all the essentials in the selection of food in health and disease. The book is clearly written and the index is particularly to be commended. It is indispensable for the use of the dietitian and hospital nurse. It is a book that may safely be entrusted to the patient. The recipes are exceedingly practical and well placed.

H. W. S.

CEREBROSPINAL FLUID IN HEALTH AND IN DISEASE. With 69 illustrations, including five color plates. By Abraham Levinson, B.S., M.D., Associate in Pediatrics, Northwestern University Medical School, etc., with a foreword by Ludvig Hektoen, M.D. St. Louis: C. V. Mosby Company. 1923. Price, \$5.00.

This volume is excellently written and contains a very complete, concise and up-to-date study of the spinal fluid in health and disease. The technique of obtaining the cerebrospinal fluid is outlined and the study of the various pathologic states modifying the spinal fluid is very painstakingly detailed and elaborated with case reports and illustrations and a well arranged bibliography.

The technique of the examinations of the various diagnostic tests are very clearly and correctly outlined. The book seems to provide an excellent source of reference for any information on diagnosis or technique of examination of the spinal fluid.

L. S. M.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

Volume XXI

ST. LOUIS, MO., MAY, 1924.

NUMBER 5

E. J. GOODWIN, M. D., EDITOR
3529 Pine St., St. Louis, Mo.

PUBLICATION COMMITTEE { W. H. BREUER, M. D., Chairman
C. B. FRANCISCO, M. D.
M. A. BLISS, M. D.

ORIGINAL ARTICLES

THE USE OF CHICKEN BLOOD AND SERUM IN THE TREATMENT OF PNEUMONIA IN CHILDREN

From the wards of the Children's Mercy Hospital, Kansas City, and the laboratories of the Kansas City General Hospital and Jensen-Salsbery.

A Further Report

HARRY CALVIN BERGER, M.D.,

AND

JAS. G. MONTGOMERY, M.D.

KANSAS CITY, MO.

In a previous communication¹ we took up in detail the theory of using the blood or blood serum of fowls in the treatment of pneumonia in children.

It is the object of this paper to present the result of our work, both with laboratory animals and with children in whom pneumonia was treated with the blood or serum of fowls, mostly chickens.

After the first season's work (1921-22) a study of the literature was made and the work of Bull and McKee² and that of Keyes³ was found. Some of the findings were very encouraging. We attempted to repeat the experiments of Bull and McKee but our results were much less striking than were theirs, possibly because we allowed our serum to age too much.

It was suggested that much of the antibody in the serum was perhaps destroyed by the host before the pneumococcus was injected in this mode of procedure. We therefore started another group of experiments reversing the order, that is making our pneumococcic injection first and following this with varying doses, and at varying intervals, with the chicken serum. These results were then checked with other groups where instead of chicken serum there were employed fresh human blood serum, aged human blood serum, the serum from chickens that had been given injections of virulent pneumococcus culture (with a proven agglutinating power) intraperitoneally, pncensolin and commercial antipneumococcus serum.

In our clinical work we were at first forced

to use the whole blood of the chicken, as stated in our preliminary report.¹

After we were able to procure serum we used it exclusively, abandoning the use of the whole blood because the serum was safer, easier to administer, always available, more comfortable to the patient and could be administered in larger dosage. A large part of this was given intravenously whereas the whole blood was always given intramuscularly or hypodermically. Even with the greatest care we had some abscesses resulting from the injection of blood, partly we think due to pressure, owing to the rapidity with which it had to be given.

Agglutination tests were made with types I, II and III pneumococcus. For this, the diagnostic serum of the New York State Board of Health, the anti-pneumococcic serum (Led-erle) secured on the local market, the serum from chickens that had received 1, 2 and 3 intraperitoneal injections of 15 to 30 cc. of virulent pneumococcus culture of the corresponding type at intervals of approximately a week, pncensolin, aged normal human serum, and aged normal chicken serum, were employed. These test show that pncensolin, aged human serum and aged chicken serum have no agglutinating power whatever, so far as the pneumococcus is concerned.

In the next series of experiments fifty-two mice were injected intraperitoneally with varying doses of virulent pneumococcus type I, an equal group with type II, and another with type III. These were divided into subgroups, each receiving the same graduated dosage. One subgroup in each type was, three hours later, injected intraperitoneally with 1 cc. of aged normal human serum, another with fresh normal human serum, a third with antipneumococcic serum, another with pncensolin, a fifth with aged normal chicken serum, and a sixth with the serum of chickens having previously had large intraperitoneal injections of virulent pneumococcus corresponding in type.

The normal chicken serum when not too old afforded a high degree of protection; when reasonably fresh, gave complete protection to a degree of infection which killed the control

animal in 20 hours. The aged normal human serum in some instances showed a considerable degree of protection. The protection afforded by the other sera used was negligible. We have found that the perservation of normal chicken serum with tricresol renders it valuable for clinical purposes for long periods of time.

In our clinical work the period elapsing between the incidence of infection and the administration of the chicken serum, as well as the dosage given, seemed to be vital factors. And in the determination of this point a series was set up for each, type I, II and III pneumococcus. In these experiments mice were injected intraperitoneally at the same time with a definite dosage of pneumococcus. In each series two animals were left as controls. Three others were immediately given .5 cc., .75 cc., and 1 cc. respectively, of normal chicken serum intraperitoneally. Three hours were allowed to elapse and another group of three mice were given .5 cc., .75 cc. and 1 cc. of normal chicken serum intraperitoneally. Six hours after the original injection, and eight hours after the original injection the same procedure was followed injecting .5 cc., .75 cc. and 1 cc. of normal chicken serum intraperitoneally in each instance. We found that protection followed a definitely graduated scale, inversely proportional to the time elapsing between the original injection of the pneumococcus and the administration of the normal chicken serum.

The dosage seemed to have little influence as the smallest dose of serum used was probably sufficient to furnish the available protection.

From this part of our work we draw the following conclusions:

CONCLUSIONS.

1. That there is present in the normal chicken serum a protective substance against the pneumococcus of each of the three types.
2. That this protective substance is not an agglutinin.
3. That the agglutinating power of the chicken serum can be raised by intraperitoneal injections of live pneumococcus, but without greatly increasing the protecting power of this serum.
5. That the chicken is tolerant of large doses of pneumococcus intraperitoneally with no untoward results.
5. That the protection afforded by chicken serum is inversely proportional to the period of time elapsing between infection and administration of the serum.
6. That the protective power of chicken serum, if unpreserved, in time becomes very much attenuated, even if kept under sterile conditions, and may in time become entirely inert.

In the following report of our clinical results our patients were all children in the wards of the Children's Mercy Hospital. A complete survey was made of all pneumonia patients in the hospital during the period included, regardless of the service they were on, and whether or not they were given chicken blood or serum. No selection of cases was made in using this form of treatment; some cases receiving serum as well as some that did not, were admitted to the hospital in an apparently hopeless condition and died shortly thereafter. It therefore seemed that this would make a fair and interesting comparison between those having received the chicken blood or serum and those that did not. Two cases only received serum in which the clinical findings of pneumonia and the type (broncho or lobar) were not first verified by X-ray and in these three staff men concurred in the diagnosis. The history of date of onset was elicited as carefully as possible but was necessarily questionable in those cases where an illness preceded the pneumonia several days.

Careful white blood counts were made preceding the administration of the serum, and daily thereafter in some cases. However, on other cases this work was done by unreliable persons. We have therefore decided not to include any in this report.

The observations as to temperature, pulse, and respiration were made by reliable nurses.

The blood or serum was administered by a staff man or the resident physician.

Our survey included sixty-one cases of pneumonia; of these thirty-eight cases received chicken blood or serum, some of them receiving insufficient amounts. These cases were divided as follows: Eighteen bronchopneumonia, twenty-five lobar pneumonia. There was a mortality of five cases, or 13.1 per cent. Three deaths were due to bronchopneumonia and two were due to lobar pneumonia.

There were twenty-three cases in the survey that were not treated with chicken blood or serum, nineteen of which were due to bronchopneumonia and twelve due to lobar pneumonia. There was a mortality of eight cases or 34.1 per cent. Seven deaths were due to bronchopneumonia and one to lobar pneumonia. The living cases of the two groups were then studied relative to the average number of days required for the temperature, pulse and respiration to reach normal after the use of chicken blood or serum. We also found the average number of days required for the temperature, pulse and respiration to reach normal in those cases not given chicken blood or serum, with the following results:

Bronchopneumonia receiving chicken blood or serum—temperature reached normal in 2.45

days, the pulse 2.09 days and the respiration in 2.27 days. In lobar pneumonia having had chicken blood or serum the temperature reached normal in 2.13 days, the pulse in 2.17 days and the respiration in 2.02 days.

In those cases in which there was no administration of chicken blood or serum we found that in the bronchopneumonias the temperature reached normal in 11.0 days, the pulse in 13.4 days and the respiration in 18.8 days; in the lobar pneumonias the temperature reached normal in 9.0 days, the pulse in 9.8 days and the respiration in 9.0 days.

From this it would seem that the proper administration of chicken blood or serum greatly reduces the mortality in both lobar and bronchopneumonia, particularly in bronchopneumonia where our highest mortality lies in childhood. Also that the convalescent period can be markedly diminished.

As to the reduction of complications where chicken blood or serum has been used we will speak in a later communication.

The immune bodies can be precipitated from normal chicken serum. It may be shown to be more practical as this work develops to use these instead of the whole serum clinically. As to their exact nature, whether antitoxic or not, we are still ignorant.

REFERENCES.

1. Berger, H. C., and Montgomery, J. C.: The Use of Chicken Blood in the Treatment of Pneumonias in Children. A Preliminary Report. The Journal of the Missouri State Medical Association. Vol. XX, p. 81.
 2. Bull, C. G., and McKee, C. M.: Antipneumococcus Protective Substances in Normal Chicken Serum. American Journal of Hygiene, Vol. I, No. 3, May, 1921.
 3. Keyes, P.: The Natural Resistance of the Pigeon to the Pneumococcus. J. Infect. Dis., XVIII, 277.
- Keyes, P.: Production of Antibodies to Pneumococci in an Insusceptible Host. Journal American Medical Association, LVI, 1878.

FRACTURES OF THE FEMUR*

HERMAN E. PEARSE, M.D.

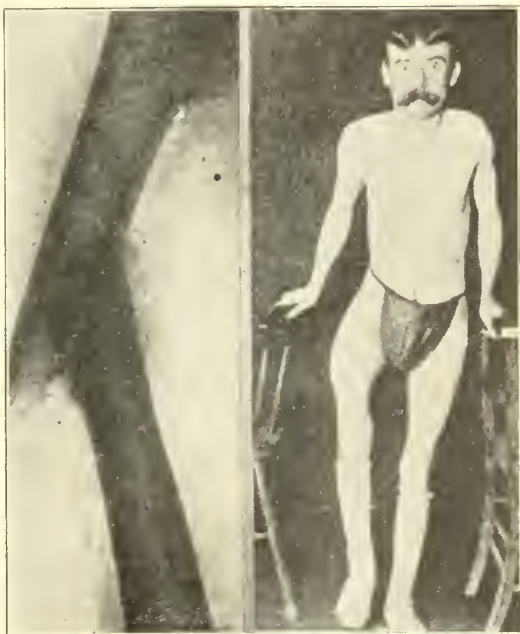
KANSAS CITY, MO.

An attempt to review the literature of this subject shows at once the serious character of this fracture. From general practitioner and from the best surgical hospitals alike come many reports of indifferent and unfavorable results from all forms of treatment. In the reports from the Mayo Clinic, which is well known for the excellence of its work as well as the honesty of its statistics, comes the report of Dr. Melvin S. Henderson upon 202 cases of fracture of the femur, 37 recent and 165 old cases coming in with bad result for retreatment. Of the 37 recent cases, 10 were of fracture of the neck. All were cured with good result by the Whitman adduction method in plaster of Paris. Of the remaining 27, 15 were

treated by open operation with 12 treated by Thomas splint, extension and splints. There were 2 bad results in these 27.

In Philadelphia, at the University of Pennsylvania Hospital, there were 88 cases reviewed, all recent fractures. All were treated by Buck's extension, weight and pulley at first, and the result was 100 per cent unsatisfactory at the end of two or three days. They were then treated by various means. Results, 36 of the 88 had no shortening; 36 had some deformity; 12 left before final result could be recorded; 2 died; 2 went on to amputation.

These 300 cases were in the hands of mas-



(From Keen's Surgery, Vol. 7, 1921.)

Fig. 1. Represents the severe outward bending of the femur often found in an unfortunate result. Oftentimes the femur was quite straight when removed from the cast, the bowing and bending being the result of too early weight-bearing upon a femur that was quite good when released from the splints. Much of this may be avoided by the use of the "Walking Caliper" shown in Figs. 8 and 9.

ters. They were in excellent surroundings. The difficulties attending their treatment and the long percentage of indifferent results is even less than we find in our own local hospitals. The accident is a formidable one. Its treatment needs more careful study.

As evidence of the great interest taken in the subject of fractures in general, of which this paper covers so small a part, I wish to call to your attention that the College of Surgeons has considered a requirement of fracture equipment as a necessary addition to the minimum standard of hospital efficiency. The College appointed a committee on fractures who published their report January 1, 1924.

The committee not only recommended that

*Read before Jackson Medical Society, December 2, 1923.

the "Minimum Requirements," which have endured for six years, be enlarged to include a minimum equipment for the treatment of fractures, but they recommended that the teaching in medical schools pay greater attention to this important subject. They further recommend-



Fig. 2. X-ray picture of a femur that was perfect when taken from the cast, a Thomas splint in this case. The boy did not wear a "Walking Caliper." The bending was not enough to produce noticeable deformity. The doctor is sometimes shocked to see the changes that a few weeks' weight-bearing produces in a case that appears excellent when the splint is first removed.—(Author's case and photograph.)

ed that wherever the Fellows of the College are found committees be formed to encourage the study of the treatment of fractures among the local graduate physicians and surgeons, to secure fundamental improvement in the treatment of this very important subject. The members of this committee are:

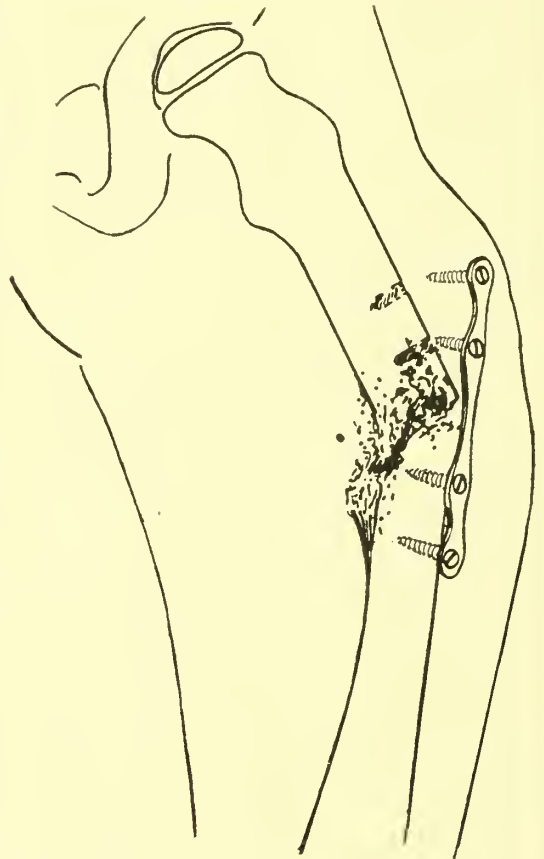
Charles L. Scudder, Boston, Chairman.
 John B. Walker, New York, Secretary.
 Nathaniel Allison, St. Louis.
 Astley P. C. Ashurst, Philadelphia.
 Joseph A. Blake, New York.
 Frederick J. Cotton, Boston.
 William Darrach, New York.
 William L. Estes, Bethlehem.
 W. Edward Gallie, Toronto.
 Fraser B. Gurd, Montreal.
 George W. Hawley, Bridgeport.

A. F. Jonas, Omaha.
 Paul T. Magnuson, Chicago.
 Loyd Noland, Birmingham.
 Robert B. Osgood, Boston.
 William O'Neill Sherman, Pittsburgh.
 Ernst A. Sommer, Portland.
 Kellogg Speed, Chicago.
 The committee report is as follows:

"It is recommended that to the minimum standard for hospitals be added the following:

A. That all general hospitals be equipped to care for fractures; that the minimum equipment be the following or its equivalent:

1. Thomas upper extremity splints.
2. Thomas lower extremity splints with traction straps, slings and buckle straps.
3. Hodgen splints.
4. Coaptation splints, assorted sizes.
5. Cabot wire splints.



(From Archives of Surgery, Vol. 2, 1921.)

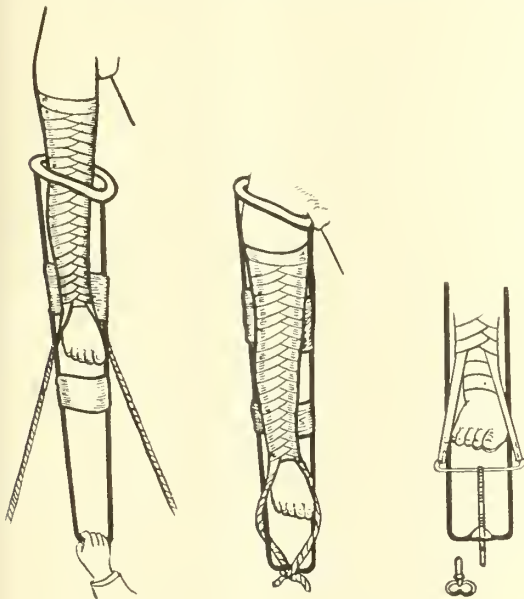
Fig. 3. The unfortunate result of outward bowing when the Lane plate is used without proper splinting at the close of the operation. All Lane plates should have the same protection by splints that a simple fracture receives when no plate is used.

6. Straight pieces of wood (of assorted length, width and thickness) for splints.
7. Plaster of Paris bandages.
8. Some form of overhead frame for suspension.
9. Suitable X-ray apparatus, including a portable machine, if practicable.

B. That it is highly desirable that one individual

surgeon be responsible for the supervision of the care of fractures in each hospital service.

C. That special record sheets be used for fracture cases.



(Keen's Surgery, Vol. 7, 1921.)

Fig. 4. The fractured limb going into the Thomas splint with adhesive straps applied and a roller bandage over them. The cut shows the complete ring splint. Today we are using a half ring as shown in Fig. 5.

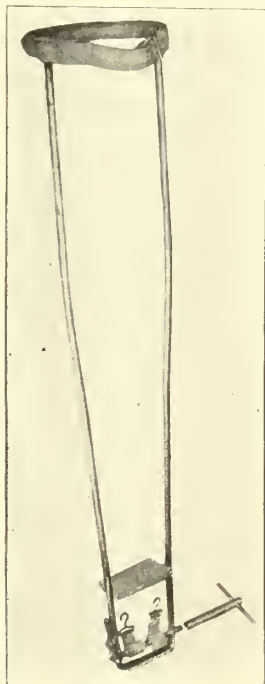


Fig. 5. The splint as the author uses it now. Note the half ring; the horizontal direction instead of oblique. These two changes allow the splint to be used on either right or left limb and can be made to fit a larger or smaller limb. The foot board is for the Buck's extension straps of adhesives. The eyelets do not show. The hooks are in the traction straps that roll on the ratchet. The key is shown. In place of this ratchet one can use an elastic band from the foot piece to the foot of the splint.—(Author's photo.)

The committee believes that favorable action by the Board of Regents and the Standardization Committee of the College upon the above recommendation will be an important step in securing a fundamental improvement in the treatment of fractures.

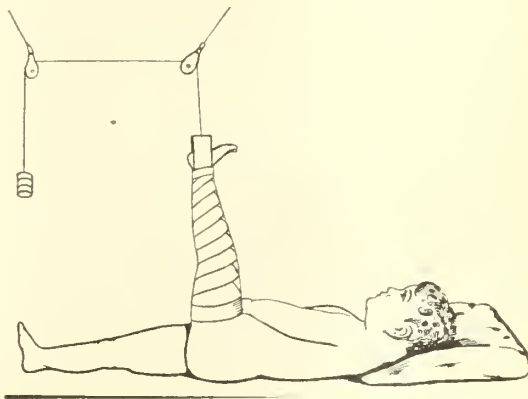
The committee has caused to be organized throughout the country local committees which have held meetings during the year.

It is clearly evident that an increasing interest in fractures is aroused among surgeons through these committee meetings. The New York committee is ideally organized. Monthly meetings are held, reports are made to the General Committee and these reports are mailed to other local committees for their information.

The subject for discussion in the local committee is suggested partly by the General Committee.

Thus, increasing numbers of facts bearing on general principles underlying treatment and the treatment itself of individual fractures are accumulating for future use.

The committee has thought it desirable to seek to improve the instruction given to undergraduates in medical schools throughout the United States and Canada. With this aim in view, a questionnaire was



(From Scudder's Treatment of Fractures.)

Fig. 6. This method of treating fractured femur in infants is the only method that shows near 100 per cent. of good results. The limb is fitted with adhesive straps and bandage for extension and is held vertical. In case of refractory children or very young infants both the broken leg and the well leg are suspended.

sent to 34 medical schools. Returns have been received from this questionnaire from the professor of surgery in 32 schools. All replies expressed approval of the investigation and promised co-operation with the committee.

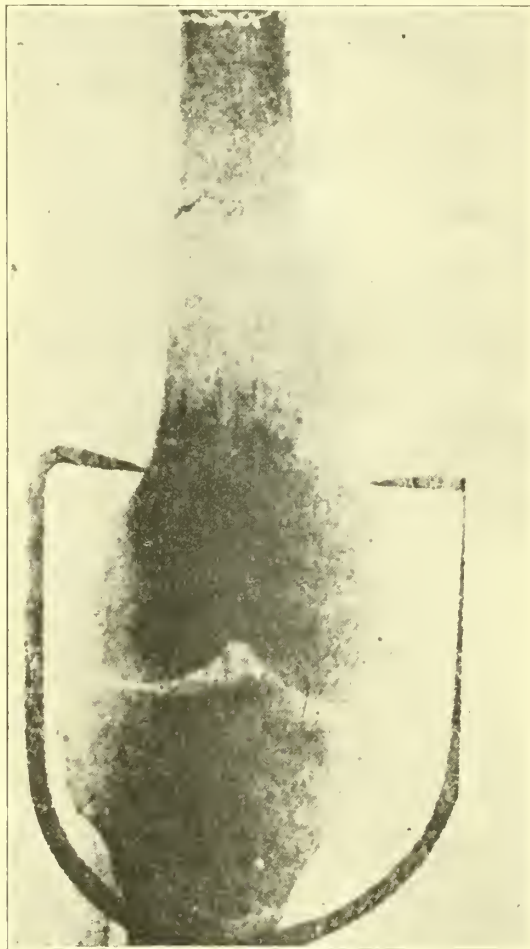
The following is a copy of the questionnaire submitted to the medical schools:

1. Is instruction given in fractures?
2. In what school year given?
3. By whom? (Name of instructor.)
4. How many exercises?
5. Is this instruction in systematic lectures?
6. Is it clinical?
7. Does any student himself care for fractures under supervision?
8. How much ground is covered?
9. Would you welcome suggestions from the committee regarding the conduct of future instruction?
10. Would you approve an attempt to standardize, simplify, such instruction in the medical schools throughout the country?

A sub-committee of your general fracture committee has been formed, called the Committee on Med-

ical School Education. This committee will report this winter to the General Committee. It is hoped that uniform, adequate, and effective methods of instruction will be suggested which, subsequently, all schools will follow, insofar as local conditions obtaining in each school permit.

The committee believes that with suitable equipment of hospitals for the reception of fractures and their adequate treatment, and with an intelligent interest among practitioners of medicine in the subject of fractures, aroused by the activities of the local committees, and with a sensible educational program in force in the medical schools of the country, through these three channels, lasting good



(From Keen's Surgery, Vol. 7, 1921.)

Fig. 7. Illustrating the application of the Pearson tongs, or calipers, applied for skeletal traction. This applies the extension to the bone itself, not to the soft parts as the adhesive straps do.

will be accomplished and a distinct advance made in this important field.

Respectfully submitted for the committee.

Signed

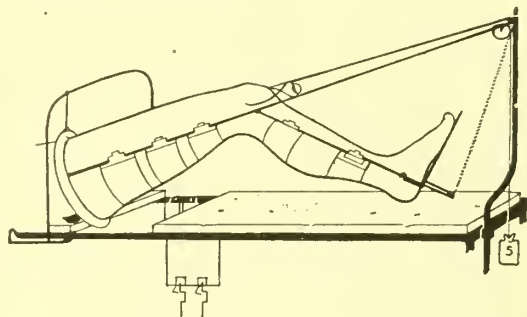
CHARLES L. SCUDDER, Boston, Chairman.

JOHN B. WALKER, New York, Secretary.

If the best results are to be obtained by such a nation-wide study of the subject the forum for discussion will be the county societies

where practitioners meet regularly for the purpose of studying methods and for perfecting themselves in their professional work.

I shall confine myself in this paper to the one narrow subject of the management of fracture of the femur. As indicated by the opening lines of this paper, the results of the treatment of fracture of the femur are sometimes disappointing. From a moderately wide experience in the management of these fractures I believe I can point out some procedures that are to be more relied upon than others. I believe that, while the good judgment of the surgeon must select the method of retaining the fractured ends of bone in apposition, the occurrence of this fracture in general practice is not so frequent that everyone can select the best method by practical experience. The doctor may have to manage but two or three broken femurs in a year, while a half dozen methods of management are of common knowledge. It is perhaps of advantage to have the opinion of one who has more than this.



(From Keen's Surgery, Vol. 7, 1921.)

Fig. 8. The complete skeletal traction applied. Pearson calipers, Thomas splint and lower leg holder with extension weights.

The justification for this paper is broader than this comparative infrequency. It takes eight to twelve weeks of constant care to secure good, firm union, and much longer is sometimes required, so that much time is lost by a failure caused by an unfortunate choice of methods. Again, the utmost vigilance is required to maintain any apparatus in a fully competent form, no matter what type of mechanism is used. Every hour, day and night, something may happen to undo the setting of the bone that has been properly done, and to jeopardize the results. The method chosen must be one that allows daily inspection of the condition of the broken limb, and it must be easy to correct any condition that requires correction. Then, too, if the results are bad the patient is deformed; he limps and is handicapped in the race of life. The long time of repair, during which the ends of the fractured bones must be kept in apposition; the serious deformity from bad union or faulty position;

the changes in the weight and size of the limb during the weeks of confinement in bed, all make it essential that the method of fixation chosen will most surely aid nature in a satisfac-



Fig. 9. The walking caliper with the horizontal half ring in place of the older oblique full ring which some still prefer. The lower ends are turned in to fit into sockets worked into the shoe heel or into a plate secured to the side of the shoe.—(Author's photo.)

tory restoration of the useful functioning of the limb.

The indications for treatment for fracture of the femur are four: (1) Reduction. (2) Retention. (3) Posture. (4) Management.

(1) *Reduction.* Reduction of the fracture is accomplished by manipulation and by manual extension or by power applied through a fracture table, either with complete anesthesia or without it.

(2) *Retention.* Holding the adjusted ends of the fractured bones in place is accomplished by one of the following principal means or by some modification of it:

A. Some type of splints external to the part held by a bandage.

B. Encasing the limb and pelvis in plaster of Paris.

C. Applying Buck's extension, adhesive straps, pulley and weight, using the body as counter extension.

D. Extension applied to the bone itself, by Pearson's caliper or Stinman pin.

E. The Hodgen splint.

F. The Thomas splint.

G. Open operation; cutting down upon the fracture; adjusting the fractured ends of bone;

securing them by some mechanical means, as bone inlay, Lane splint, peg, screws, bone splint or metal band.

I think I may fairly say these seven methods of holding the broken bone in apposition are each more or less radically different from one another, and under certain conditions any one of them may be used with success, and each is a proper treatment for fracture of the femur, good results being obtained from each and all. It is also true that by trial it has been found that certain ones of these seven methods are more generally successful than others. Some are applicable to special types of fracture only, and some have given so much trouble in application and such questionable results that it seems well to avoid their further use as a general thing.

(3) *Posture.* The third step in the management and care of a fracture of the femur is to place the patient comfortably at rest in bed and arrange for his comfortable eating, sleeping, bathing, and natural calls of the body for a period of twelve to sixteen weeks or more. For this purpose an arrangement for suspension of the part to an overhead frame is desirable. Also the special fracture beds

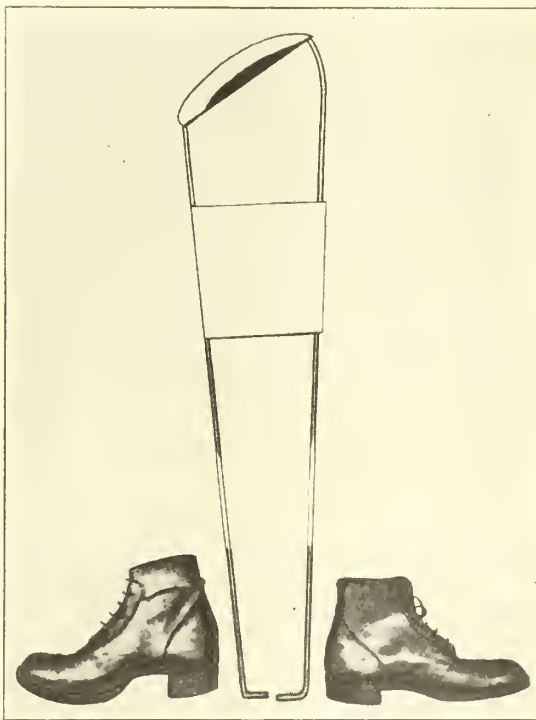


Fig. 10. The walking caliper and shoe complete.—(Author's photo.)

with removable sections are of assistance in nursing and care.

(4) *Management.* Frequent inspection of the case must be made. In hospital practice and with the more affluent and fortunately lo-

cated patients in private homes this will include X-ray observation at ten to twenty-day intervals, by a portable apparatus. It is usually not advisable to attempt this X-ray observation by taking the patient to the X-ray room for observation, and back to bed again. There are too many chances of disarrangement of appliances.

Having diagnosed a fracture of the femur by all the means within reasonable reach, including X-ray plate if possible, we will employ the four principal steps just described in every case, and neglect none of them: 1. The reduction of the fracture. 2. The fixation and retention of the fragments by the chosen method, selecting the one most suitable to the case, 3. Arrangement for the patient's care and

immediately available—in the isolated farm house, in the home of the well-to-do, in the apartment of the poor city dweller, as well as in the well equipped hospital. The doctor who undertakes the treatment of these fractures must be content to use the means at hand and often apply one or more temporary or emergency dressings until a difficult and complicated case can be turned over to better surroundings of a well equipped hospital, or supplied at a later day with more appropriate apparatus. In this field of temporary emergency the wooden splint and the bandage is supreme. Indeed, for emergency treatment of fracture of the femur, the long side splint of wood, extending from the axilla to the ankle, and the Thomas splint with extension by means of a clove hitch, offer almost universal advantages for emergency and transportation, as proved by thousands of cases in the war.

Of the seven methods recognized as proper procedure for retention of fragments of broken shaft of the femur, three would perhaps as well be abandoned except in occasional cases. These three have too many objectionable features. They do not compare favorably with the others in the long weeks following reduction. These are: 1. The plaster Paris spica bandage from the ankle to the chest. 2. The adhesive, weight and pulley comprising Buck's extension. 3. Swinging splint of Hodggen, unless modified to embody the principal of Thomas.

The plaster Paris spica still holds its place without a peer in fractures about the capsule of the hip joint and as far down as the trochanters. In the ten fractures of the neck of the femur cited in Henderson's report of 202 fractures of the femur in the Mayo Clinic, 8 were cured and only 2 were left somewhat crippled, and Henderson especially emphasizes the fact that "there is no reason why fractures of the neck and trochanters could not be brought to healing. Certainly old age is not a bar." This is to be accomplished by the plaster of Paris bandage, applied after the technique of Whitman and upon a fracture table only. A few cases have been equally well cured by the more complicated treatment of extension and side traction of Ruth and Maxwell. Even in those that had healed with deformity and helplessness after the lapse of months Henderson operated on 44 and secured 28 cures and 16 failures, holding them by the Whitman method. Francisco, Schaufler and Dickson of our own society give the same strong endorsement of this use of plaster of Paris and the Whitman posture. These fractures should no longer be treated by neglect and condemned to helplessness. Plaster of Paris is not so desirable along the shaft. It rubs and wears the skin; dirt and crumbs



Fig. 11. A walking caliper with a plate to fasten under the shoe.—(Author's photograph.)

comfort in bed. 4. Inspect the fracture as often as necessary. Of these four, tradition assigns first place to the reduction or "setting." The public view it in the same light. It is not the most important, however. The choice of the retention appliance is the important matter. I have detailed before the seven principal methods of such retention, namely: 1. External splint and bandage. 2. Plaster Paris cast. 3. Buck's extension. 4. Skeletal traction. 5. Hodggen splint. 6. Thomas splint. 7. Open operation and internal splint.

Every one must realize that the material and surroundings for each of the seven methods of fixation is not often at hand. Yet the fracture must be reduced and held by such means as are

get inside it and irritate; the tissues steadily shrink and the cast loosens and there is no way of taking it up. The heavy cast anchors the lower fragment, while the upper is dislodged by the movements of the body. It hides from view the seat of the fracture. It is useful occasionally, and very useful, but not as a routine.

Buck's extension has the very serious defect that the body will give and slip until the tension and weight are off. Any one who has ever tried to keep an elderly patient away from the foot of the bed when a slide of four to six inches will relieve the strain, can bear me out in my advice to get away from Buck's extension as a routine treatment for fracture of the femur.

The same is true of Hodgen's most excellent splint. It is fine while it works right, but it requires constant understanding care on the



(From Scudder's Treatment of Fractures, 9th Edition, 1922.)

Fig. 13. The type of fracture best treated by open operation using Martin band or Lane splint.



(From Archives of Surgery, Vol. 2, 1921.)

Fig. 12. A woman wearing a walking caliper outside the underwear and beneath the outer dress. Men wear the walking caliper outside the trousers or inside as desired.

part of the nurse or friends. The results have not been entirely satisfactory in these three.

The ring splint of Thomas, modified to give a strap for half of the ring, and with good extension appliance, will overcome most of the difficulties of the above three. There must, however, be daily care to see that the posterior half of the ring rests solidly at all times against the tuberosity of the ischium, and that the extension is strong by the traction straps and crank or elastic. It allows perfect observation of the entire thigh and abundant opportunity for the correction of any anterior, posterior, outward or inward bending. There are but two objections to it that become evident: (1) The ring sometimes gets away from

the tuberosity and counter extension is formed against the perineum. This soon causes disaster from pressure, and too it lets the fragments slip and become displaced. (2) The long time of traction causes a stiff knee. The young recover from this; the old do not.

If I were to name the seven methods of holding the fragments of the broken femur in apposition in the order of their usefulness to the hospital surgeon, the country doctor, and the family physician alike, I should name first in the list the ring splint of Thomas.

Of course, the long side splint is always the most available, and is the splint of emergency, of necessity and of transportation in the absence of the Thomas.

3. The swinging splint of Hodgen.

4. Plaster Paris spica from ankle to chest.

5. And least desirable, Buck's extension with weight and pulley.

6. Skeletal traction.

7. Open operation.

The last two methods, skeletal traction and open operation, deserve close attention. The skeletal traction tongs of Pearson never slip; do not cause stiff knee; are not painful if properly applied; offer much superior results of traction in suitable cases, but it is to be used by a surgeon who understands it, and good nursing is a necessity. Drilling the bone and inserting a pin through the condyle is more of a surgical operation than applying the tongs, and is a certain and a beautifully efficient traction method. Infection plays havoc here, however, so it requires a high degree of surgical and nursing skill for its successful application.

Open operation is to be used in preference to traction and retention just in proportion to the experience of the surgeon in this especial field, and the perfection of the operating room technique at the patient's disposal. Open operation is indicated in oblique fractures, in rotary fractures, in splintering of bone and in some comminuted fractures of the shaft, and in many cases of old fractures with non-union, great shortening or angulation. With the acute methods of checking up on wound infection at our great clinics, it has been found that around 20 per cent of recent cases and more than twice that in the cases of re-operation become infected. The infection usually does not prevent prompt union if drainage is surgically intelligent. The technique is intricate and well standardized. It requires special instruments and special skill and a special technique far more rigid than the usual abdominal operation. Its use by the unskilled has not been a pleasant chapter in surgery. But in the hands of those who are competent the bone inlay, the Lane plate and the metal band have transformed the most hopeless cases into the very

best results. Those cases of long oblique fractures, comminuted fractures, and splintered rotary fractures of the shaft, under all forms of splint treatment are sure to show shortening and deformity after twelve to twenty weeks. They will by this open surgical procedure show perfect results of form and function in less than one-half of this time. But I repeat, the open treatment must be undertaken only by one skilled in it and in most perfect surroundings. The failures of open operation are from unskilled and improper technique; poor choice of internal splints, and insufficient splinting and support of the limb after completing the operation when the limb should have been treated as after primary reduction of a simple fracture.

In closing this paper I wish to urge this Society that we join with the various committees of the American College of Surgeons in the better study of fracture treatment; that those of us in hospital practice see that our hospitals are equipped to meet the new requirements of A grade hospitals as regards equipment for the management of fractures, and that those of us who attend fractures at the patients' homes establish the means of securing the material mentioned in the "Minimum Requirements" with little delay. This is to the end that we may all give better service in this important field.

1317 Rialto Building.

CERVICAL RIB. REPORT OF SEVEN CASES, ONE OPERATED

W. A. MYERS, M.D.

KANSAS CITY, MO.

The average physician or surgeon thinks of a cervical rib with about the same degree of respect and curiosity as he does a supernumerary nipple; considers it about as frequent as cryptorchism and about as important as a bifid uvula. Facts are coming to light, thanks to the X-ray, that are placing this not uncommon anomaly on a more dignified footing for the interpretation of certain rather common symptoms. In truth, we believe, the thorough knowledge of the cervical rib syndrome should be coveted by every general practitioner and by a wide variety of specialists.

For example, a seventh cervical rib will at times explain a unilateral dilated pupil to the oculist; aphonia and hoarseness to the laryngologist; unilateral facial sweating to the dermatologist; thyrotoxic symptoms to the metabolist; clonic diaphragmatic spasm or cardiac palpitation to the internist; brachial plexus paresthesias, paralysis or even gangrene of the fingers to the neurologist; and will at times

suggest to the surgeon an efficient line of treatment for not only the above but many other symptom complexes. Indeed, the various symptoms reported from cervical rib anomalies could scarcely arise from any lesion not ana-

tomically situated in such close proximity to important blood vessels and nerves as does a well developed cervical rib. Still a knowledge of these symptoms is not generally disseminated due largely, no doubt, to the fact that our

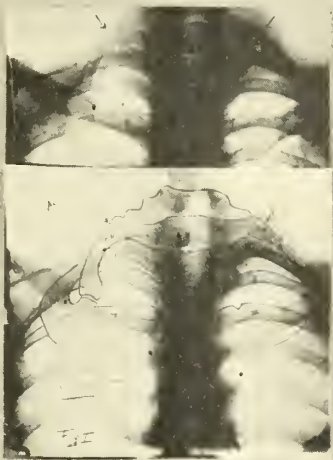


Fig. I.



Fig. II.



Fig. III.

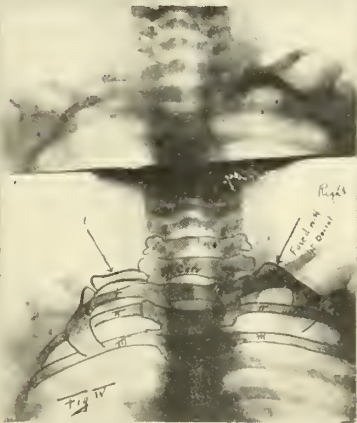


Fig. IV.

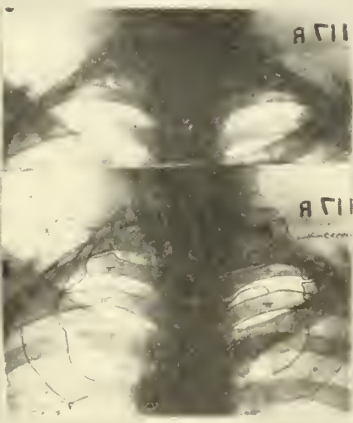


Fig. V.

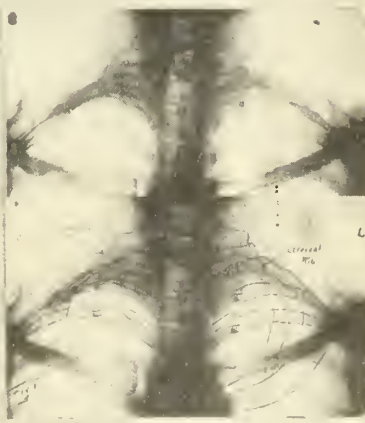


Fig. VI.

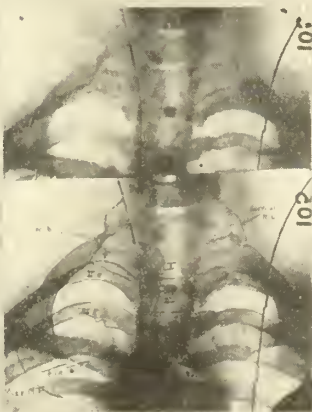


Fig. VII.



Fig. VIII.

texts on medicine and surgery rarely suggest, and the magazines and texts of the limited specialties practically never emphasize, the frequency or the variety of the symptoms potentially present with the cervical rib.

The following cases seen in our private practise are reported:

Case 1. Miss A. F., age 35, bookkeeper, was seen suffering from bronchopneumonia. Symptoms referable to cervical rib were, enlargement of the base of the neck, noted by patient for several years, diagnosed once as goiter; supraclavicular space is tender at times and has sensation of a tight band around the neck; numbness of both sides of the neck and mandibular region and at times she has to rub them to get relief. She invariably sleeps with her hands over her head and on awaking has to rub or whip-crack her fingers to relieve the numbness that develops. There is no pain or paralysis in either hand or arm. On physical examination there is a wide neck base, supraclavicular fullness bilaterally and a tender, hard, finger-like mass reaching almost directly across the supraclavicular space bilaterally. There is no visible pulsation and no bruit on either side. X-ray confirms the diagnosis of anomalous ribs. (Fig. 1.) The right seventh cervical rib is almost full-sized, and joins a deformed first rib at the junction of the anterior and middle thirds. The left is of equal size and attachment at the junction of the posterior and middle thirds of the first rib, quite identical to the right. Operation was not advised.

Case 2. Miss Mc., age 25, university student, says she is tired out, noticed base of neck is broad and, though she had no thyro-toxic symptoms that she knows of, was interested in knowing whether a goiter was present. Here on physical examination was a widened neck base, with a palpable, bony, finger-like projection across the right supraclavicular space, proven by the X-ray to be a cervical rib (Fig. 2). On the left is an anlage of a seventh rib, one commonly termed a "buttress type." Operation not advised.

Case 3. Miss C., age 19, university student, tired out, fears pulmonary tuberculosis since the school physician had found that the apex of the right lung was "not fully developed." There was fullness in the right supraclavicular space, and dullness on percussion. X-ray demonstrated a cervical rib attaching itself to the first rib about the junction of the posterior and middle thirds (Fig. 3). No evidence of lung trouble. Patient well to date. No symptoms justifying operation.

Case 4. R. B. Girl, age 3½, brought to office by mother because of lump in the right supraclavicular space. No symptoms. X-ray discloses a thick, deformed rib where the anlage of the seventh cervical had fused with the first rib. (Fig. 4.) On the left was a distinct anomalous rib falsely joined to a protuberance rising 1 cm. from the first rib at the junction of the anterior and posterior halves. No operation.

Case 5. Mr. D. T., age 35. Routine examination of chest with X-ray discloses bilateral cervical ribs, the right pseudo-artrosed with the phalangeal-like projection from the right rib at one-half the distance from the sternum to the spine. On the left the rib is well developed and joined directly to the first at about the same point as the opposite one. (Fig. 5.) No symptoms. Wife suffering from tuberculosis, patient's lungs negative. No operation.

Case 6. Mrs. J. T. B., age 47, complains of dysphagia, especially a peculiar drawing feeling when she swallows. Has noticed a mass in right supraclavicular fossa for seventeen years; has tingling in

her hands at times but no pain, both hands affected but the right more so. Physical examination: wide neck base, firm finger-like mass in both spaces, somewhat deeper on the left. X-ray discovered a seventh cervical rib on the right firmly attached about the junction of the posterior and middle third of the first rib; on the left a long rib evidently attached to the first almost at the costochondral junction, by a fibrocartilaginous band which does not cast a true shadow at the juncture. (Fig. 6.) No operation advised.

Case 7. The last case is by all means the most interesting. Miss M. F., age 29, bank teller and typist, comes to office because of pain in the right arm and hand. Was well up to two years ago when an indescribable feeling of mingled pain and numbness and paresis over the entire length of the right arm began, which was followed shortly by a paresthesia in the right axilla and around the shoulder blade. The thumb, first and second fingers are especially affected and she fears she will not be able to carry on her work because of the weakness and numbness of the fingers used in writing. The left hand affection is questionable.

The peculiar history of a neuritis with the distribution of the pain led to an X-ray which showed a small seventh cervical rib (Fig. 7), the right being about 1¼ inches long, the left about ½ inch long, each very rudimentary. Patient was put on conservative treatment and was under observation for months but with gradually increasing symptoms of weakness. She was advised to have the right rib removed. The operation was performed by Drs. Howard Hill and J. Park Neale, August 20, 1920.

At operation an anterior incision was made and a rib 4 or 5 mm. in diameter and 3 cm. long with a fibrocartilaginous attachment from its end to the first rib, was removed. (Fig. 8.) The lower trunk of the brachial plexus and the subclavian artery were lying over and anterior to it. Post-operative, there was a paralysis of the entire brachial plexus distribution, only slightly improved on leaving the hospital two weeks later. All function gradually returned with time, massage and electro-therapy, the last to recover being the circumflex group. She was entirely incapacitated for work for seventy-five days and did not entirely recover her full function for many weeks more. At this writing she is free from pain and numbness and has no disturbance in the full use of her arm and hand.

Comment.—Of the seven cases here presented two were found in routine X-ray examination of the chest by Dr. J. T. Swanson, our radiologist. There were six females, one male; the variation of age was from 3½ years to 47. There were three cases of well developed cervical ribs bilaterally, one well developed on one side with a "buttress" rib opposite; one well developed with its mate rudimentary and fused with the deformed first; one well developed with no evidence of its twin on the opposite, while the one case that showed diminutive ribs bilaterally was the only one that developed symptoms to the extent that operation was demanded.

Five of these patients (or their associates) had noticed some abnormality of the neck; at least five had enlargement of the neck base: three had sensory changes in the arm and hands; two had felt a hard lump in the neck: two had dysphagia; one had suspected goiter:

two suspected tuberculosis; one had a sensation of a constriction band about the neck; one had numbness of the jaws; and one had paresthesia of the axilla, scapular and pectoral regions, with combined motor and sensory changes in the arms and hands.

Discussion.—How frequently do cervical ribs occur? Anatomic studies¹ would lead us to believe that they occur in about one of each hundred dissections. McWhorter² says he has found them "more frequently." Thirty-one cases are reported from 80,000 patients examined at the Mayo Clinic⁴. Miller⁵ found eight in sixteen months of his practise while Pancoast is reported to be finding an average of six cases a year in his routine X-ray work. We have found them in the proportion of one to each 500 cases studied routinely. Once the syndrome is brought to one's attention, one cannot forget to look for the anomaly whenever the symptoms mentioned below present themselves. Keen, for example, did not recognize a cervical rib for forty years of his practise, yet was the author of one of the classics on this anomaly. Osler reported two cases of brachial plexus symptoms in 1907 of "unknown etiology," which he confessed in 1911 must fall in the class of cervical rib syndromes described by Keen a short time before.

The etiology of cervical rib is of course congenital—an atavistic tendency. They have been reported as occurring in several members of the same family¹⁶. Our ancestors, theoretically, had a rib for each vertebra, which number diminished to 13 or 14 for the orang, chimpanzee and gorilla,² and to 12 dorsal ribs for man, with anomalous cervical and lumbar ribs, the latter practically never causing symptoms, the former frequently doing so. Cervical ribs usually spring from the seventh cervical vertebra, though they may arise from both the sixth and seventh; may be bilateral (75 per cent usually mentioned); and though it is rare for symptoms to arise on both sides cases have been reported demanding bilateral excision. Approximately 70 per cent are said to occur in women though of our seven cases almost 90 per cent were women.

Cervical rib symptoms are largely due to pressure on the surrounding tissues, especially the arteries and nerves. Secondarily they cause vasomotor and sympathetic phenomena. The amount of pressure and resulting symptoms are apparently in no way proportional to the size of the rib. Our case with the smallest rib was the one with extreme symptoms and demanded excision. The cases with the large ribs gave few and meager symptoms. Miller⁵ has explained this by the fact that these short ribs are so frequently associated with a fibrocartilaginous band connecting them to the first rib over

which the subclavian artery and brachial plexus ride. A large rib, on the other hand, may have large and well developed grooves for these to rest in and aside from lifting them cephalad cause no symptoms whatever. Eisendrath has shown that the artery at times courses below these large ribs and is relieved of the perils of pressure symptoms. Likewise the nerves of the lower segments of the brachial plexus may not course upward but pass directly under the extra rib producing no symptoms in cases where large cervical rib are proven to be present by the X-ray.

Cervical rib syndrome, without cervical rib, must be respected and may be due to pressure of a first thoracic rib on the brachial plexus and subclavian artery¹⁵. We have seen one such case though not proven with operation. Outland and Clendenning⁹ seem to have had one case that refused operation. The late J. B. Murphy reports a case of a normal first rib with a cervical rib syndrome that completely recovered with rib resection.

Inasmuch as this is a clinical paper we will speak of the signs and symptoms of cervical rib topographically rather than in relation to the nervous and vascular systems, as they are most frequently presented. In this respect the subject divides itself into four divisions, namely, the signs and symptoms referable to the (a) neck, (b) arm and hand, (c) face and (d) chest.

Early in the recognition of cervical ribs it was thought and taught that the most striking index to the presence of a cervical rib was the pulsating tumor in the supraclavicular space. This led to the statement of Cabot that such a tumor was a cervical rib in 90 per cent of cases. Such a pulsating tumor is, however, very rare (less than 4 per cent, according to Halstead¹⁷) and is in no way a criterion to guide in diagnosis, else many cases will be missed. At times, however, the subclavian artery is lifted cephalad one rib's width, is thereby compressed, and the resulting constriction ends a dilatation but, opposite to one's expectation, the pulsating tumor is distal to the rib rather than proximal.¹⁷ This enlargement of the artery is at times taken for an aneurysm, as in a case cited to us personally by Dr. Howard Hill wherein a surgeon of his acquaintance attempted to treat an aneurysm by wiring but, on finding the pathology present, "cured" his suspected aneurysm by resecting a seventh cervical rib. The pulsation of these dilated subclavians has a definite bruit which adds to the possibility of error in diagnosis. Instead of dilatation of the subclavian there may occur an obliteration of the vessel so that pulsation may not be detected, or thrombosis may develop, and unless there is time for collateral

circulation to develop there may result gangrene of the fingers or even of the entire forearm, as in a case mentioned by Murphy.

Actual deformity about the neck is not a common or dependable sign. It is true that certain cases of cervical scoliosis have been caused by, or at least associated with, a long, firm unilateral cervical rib—16 per cent of cervical rib cases according to Streissler's³ classic investigations may result in deformity. One case, reported in the French by Renault¹⁶ resembled in posture and symptoms a cervical Pott's disease, but was entirely relieved by excision of the rib. One could scarcely speak of the firm finger like fullness in the supraclavicular space as a deformity, though this is very common in a high percentage of cases, reaching across the space on one or both sides. Locally there is a wide neck base which seems to be present in any case of well developed rib. Over the rib occasionally one may feel the brachial artery and at times the firm bands of the brachial plexus. For those who depend on percussion of the apex for diagnosis of tuberculosis there may be a pitfall in the dullness present, as in one of our cases. The wide neck base looks not unlike an enlargement of the thyroid and may confuse the uninitiated. This is made the more easy because these cases actually have been known to develop nervousness and even thyrotoxic symptoms.

This, and other nervous, phenomena, may develop. Thyrotoxic symptoms and enlarged thyroids, when present in these cases, have been ascribed to pressure on certain tracts of the sympathetic system. This is substantiated by recent study of degenerating cervical sympathetics in toxic goiter, and by the interesting work of Cannon, causing definite thyrotoxic symptoms by uniting the proximal portion of an excised phrenic nerve to the distal portion of the excised cervical sympathetic. It is possible that the constant irritation or stimulation of the sympathetics by extra ribs may thus stimulate the thyroid in certain cases. Such an hypothesis may possibly explain the cardiac palpitation in one reported case, which was relieved by excision, of a seventh cervical rib. Other nerves are liable to pressure symptoms. They may press in some way on the recurrent laryngeal nerve, in cases of aphonia associated with anomalous ribs. The phrenic nerve is believed not to escape irritation, as in the case of Hunt¹² where clonic contractions of the diaphragm lasting several days ceased after rib excision.

Besides the above there are cases of dysphagia, as in two of our cases. There is the sense of constriction about the throat, and numbness of one or both sides of the neck at times radiating down over the clavicular region, or up toward the jaw. Church mentions a case or

atrophy of the larynx associated with aphonia, and of atrophy of the tongue. The symptoms referable to the arm and hand are usually considered the typical ones of cervical rib syndrome, inasmuch as the brachial plexus, vascular and vasomotor symptoms are noted here. Alteration of the radial pulse may result from the pressure on the subclavian and it may be reduced or obliterated in certain cases. Unequal pulses may be due to cervical rib as well as aneurysm. The diminished or obliterated pulse may be transient, as when the arm is held in certain positions, or may be permanent with thrombosis of the subclavian, in which case the gangrene of the fingers or forearm mentioned above may result. There is said never to be passive congestion or edema due to pressure on the large veins of the shoulder girdle. The vasomotor signs or arteriosympathetic disturbances, due to pressure on the arteriosympathetic nerves, are various and range from the very mild to the very severe. The patient may suffer from cold only, the hands may turn red, mottled, or blue, when so exposed, and suffer from tingling, burning, or stiffness. Osler¹¹ has described a syndrome simulating an intermittent claudication, except here located in the arm and hand, the pain, swelling and cyanosis being so marked in one man, a carpenter, as to prevent entirely his carrying on his trade. The most remarkable syndrome of this type, however, is gangrene of the fingers, a number of cases now being authentic.^{6 18} These resemble the condition known as Raynaud's disease¹⁴ to such an extent that the differential diagnosis may be difficult and be doubly so in those rare cases where it occurs bilaterally. The work of European surgeons on periarterial sympathectomy would lead us to believe that the actual gangrene of the fingers may be due to a spasm of the arterial musculature, from overstimulation of the periarterial sympathetics by the rib pressure.

The involvement of the brachial plexus is a very important and probably the best known condition associated with cervical rib. By the pressure on the lower trunks of the plexus both sensory and motor tracts are involved. A seventh cervical rib theoretically presses usually on the lower trunk of the brachial plexus, and if the pressure of the cervical rib is not associated with unusual nerve distribution we would expect certain symptoms and signs due to pressure on the roots of the ulnar and median nerves, internal cutaneous, and nerve of Wrisberg but less commonly by fibers anastomosing with the middle and upper trunks, there may be expected symptoms in the distribution of the musculo-spiral and circumflex. In the case operated here, the picture was complete, viz., involvement of the subscapular, anterior thoracic, ulnar and median nerves, caus-

ing both sensory and motor symptoms of an early type. In this case the motor symptoms were limited to the thumb, first finger, and to a less extent throughout the hand, but at times the paralysis or paresis and wasting of the intrinsic muscles of the hand may simulate a progressive muscular atrophy or may produce a claw hand. This may be associated with more extensive disturbances causing ulnar, or median nerve, muscular paralysis and atrophy. Early, this weakness may be mistaken for "writer's cramp," or other types of occupational weakness. One should think always of a cervical rib in differential diagnosis of motor lesions of the hand or arm.

Sensory symptoms usually are associated rather closely with the motor signs and symptoms. These are usually diagnosed neuritis and are frequently passed off as a brachial neuritis without further analysis. It may be merely the tingling mentioned in two of our cases. This may in time change to numbness, formications, or even a constant and severe pain along the distribution of the nerves most impinged on by the rib. At first the hand may merely go to sleep, and this in time may end in the extreme pain of gangrene. Anesthesia, paresthesia, hyperesthesia, may exist and dissociation of sensation has been noted in the affected member, at times even associated with digital blebs similar to syringomyelia. The typical pathology of the condition in the cord may or may not be present. In short, we believe a so-called neuritis of the arm or hand, not responding to usual treatment and lasting over a period of months or years, should lead to careful investigation of the cervical rib as an etiological factor.

The symptoms referable to the face from cervical rib are usually overlooked. Eye symptoms have been reported by Osler¹¹ of dilatation of the pupil on the side affected, while McWhorter² speaks of "ptosis, myosis, retraction of the bulb and mydriasis" being associated with the condition. Schönebeck¹⁹ reports a case with widening of the palpebral fissure, with dilatation of the pupil on one side. Paralysis of the vasomotor control of the side of the face resulting in unilateral sweating has been charged to cervical rib.¹³ One of our patients with well developed cervical rib complained of numbness of both jaws and lower face. Atrophy of the tongue was mentioned above, while paraesthesia of the tongue may exist.

The lesions of the chest are less numerous. Recurrent branches of the first and second thoracic may be affected and result in definite intercostal neuralgia. Pressure on the cilio-spinal branch of the first dorsal explains the mydriasis mentioned above. In the chest, atrophy and paralysis are not rare. Atrophy

of the teres muscles and latissimus dorsi have been reported due to cervical rib.

Diagnosis without doubt has been immeasurably aided by the X-ray and has bolstered up the courage of the surgeon in these cases. However, there are so many cases with ribs without symptoms, and some cases with the "cervical rib syndrome" without demonstrable rib by the X-ray that one should be constantly familiar with the picture to elect true and unquestioned cases for operative treatment. It is well to know that the syndrome is due to this pressure independent of the radiogram before submitting the patient to an operation at once very delicate and fraught with danger. Moreover, the symptoms, as alluded to above, are in no measure definitely commensurate to the size of the rib.

The prognosis in these cases is dependent on early and accurate diagnosis by clinical as well as X-ray findings. Operative excision is the only method of treatment in those cases with severe or gradually increasing symptoms. Still, operation is no panacea, as Lewis³ reports three cases in which little or no relief was secured by most careful excision. Streissler, on the other hand, believes that good results will follow 70 per cent of the operations on well chosen cases. It may be that temporary paralysis may occur at times from stretching the nerves at operation or from resulting edema about the plexus, and recovery after operation is often temporarily disappointing.

815 Shukert Building.

BIBLIOGRAPHY

1. Fischel. Quoted by A. Church. *Jour. A. M. A.*, 73:1.
2. McWhorter. *Surg., Gyn. and Obst., Inter. Abs. Surg.*, August, 1920.
3. Streissler, E. *Die Halsrippen. Ergebn. d. Chir. v. Orthop.*, 5:28-360.
4. Henderson, M. S. *Cervical Rib. Amer. Orthop. Surg.*, 40:408-430.
5. Miller, J. L. *Some Observations on the Symptomatology and Diagnosis of Cervical Ribs. Am. J. M. Sc.*, 142:811.
6. Keen, W. W. *The Symptomatology, Diagnosis and Surgical Treatment of Cervical Rib. Am. J. M. Sc.*, 133: No. 2.
7. Privot, J. *Deux cas de Cotes Surnuméraires de la région cervicale. J. de radial et d'électoral*, 2:244.
8. Lewis, D. *Cases of Return after Operation and Failure to Relieve. Internat. Clin.*, 2:69.
9. Outland, J. H., and Clendenning, L. *First Rib Anomaly Simulating Cervical Rib. Interstate Med. J.*, 22:1100.
10. Murphy, J. B. *Bilateral Cervical Rib—Excision Right Side. Clin. J. B. Murphy*, 4:1067.
11. Osler, Wm. *Cervical Ribs. Proc. Roy. Soc. Lond.*, 6:Clin. Sec. 9-12.
12. Hunt, G. B. *Clonic Spasm of Diaphragm Associated with Cervical Rib. Brit. Med. Jour.*, Lond. 2:314.
13. Miller. *Paralysis of Right Cervical Sympathetic. Deutsch. Zeit. f. Neiderrhein. Giesk. Chir. Natur und Heilkunde* (1894), V.
14. Hood. *Double Cervical Rib Associated with Vascular Phenomena of Raynaud's. Proc. Roy. Soc.* (1921).
15. Thomas, G. F. *An Undeveloped First Dorsal Rib Simulating a Cervical Rib. Jour. A. M. A.*, 52:1405.
16. Renault. *Seventh Cervical Rib Simulating Cervical Pott's Disease. Arch. de med. des enfants*, 21:83.
17. Halstead, W. S. *As to the Cause of Dilatation of the Subclavian Artery Which is Observed in Some Cases of Cervical Rib. Tr. Am. Surg. Ass.*, 34:273-288.
18. Law, A. A. *Surgical Aspects of Cervical Rib. Journ. Lancet*, 34:330.
19. Schönebeck. *Beitraege z. Kenntnis der Halsrippen. Inaugural Dissertation-Strassburg* (1905).

AMBLYOPIA FOLLOWING EPISTAXIS IN THROMBOPLASTIC PURPURA

LAWRENCE POST, M.D.,

ST. LOUIS

Visual defects following hemorrhage are extremely rare. Because of this and because of an association with thromboplastic purpura, an association heretofore unreported, attention is called to this case.

A six-year-old girl, A. Z., was admitted to the St. Louis Children's Hospital in December, 1923, almost exsanguinated from epistaxis.

No other bleeders were known in the family. Both parents and several brothers and sisters were living and well.

The past history of the patient was negative until eleven months previous to admission to the Children's Hospital at which time the child had influenza. During the illness, which was severe, there was frequent and prolonged epistaxis. This recurred a number of times during the following months. Five months before admission the child had such a violent and prolonged epistaxis that after the bleeding ceased the father thought that the girl was dead. For twelve hours her eyes remained rolled far upwards and there were almost no signs of life in the patient. The girl slowly recovered but from that time forward she always gazed above any object that she wished to see and her sight was notably bad. Previous to this she could see well and no peculiarities of vision had been observed.

For the next five months repeated minor epistaxes occurred but not a very grave one until that one which caused her parents to bring her to the hospital.

Examination revealed an almost exsanguinated child. Except for the blood picture, which was that of a marked anemia of the thromboplastic type and purpuric spots on the body, no physical defects were found and Wassermann and tuberculous tests were negative. No ophthalmic examination was made at this time because of the desperate condition of the patient.

Numerous transfusions were performed, which were invariably followed by renewed hemorrhage. A splenectomy was performed by Dr. M. B. Clopton with instant stopping of the oozing from the incision and a rapid improvement in the child with a corresponding change in the blood picture.

Shortly after the splenectomy, an ophthalmological examination was made. The vision in either eye was very low, especially in the left eye. The child could not see a test object held directly in the normal line of central vision with either eye. Only by gazing above the object could it be seen. By such a method

one inch figures could be distinguished at about two feet with the right eye and at six inches with the left eye. No definite field could be taken because of the difficulty of fixation, but it was ascertained that the visual defect was an entire absence of the upper field together with central vision in each eye.

The ophthalmic examination revealed advanced optic atrophy in either eye, slightly more marked in the left. The arteries were rather small but otherwise normal. No hemorrhage or other fundus changes were observable.

The patient was watched for two weeks, but no change in the condition was noticed.

The literature on visual defects following hemorrhage contains about two hundred cases. Several authors have reviewed these and collected statistics of this affection.

Usually the visual disturbance does not become evident until from two to six days after the hemorrhage. As long as sixty days has been recorded between hemorrhage and amblyopia.¹

Because of this delay and because of the rarity of this trouble associated with hemorrhage from wounds, most authors have felt that there must be some disease underlying the hemorrhage; the disease producing a toxin which, when associated with the anemia following the hemorrhage, has caused the blindness rather than that the hemorrhage alone is responsible for the amblyopia.

The sight is impaired or abolished and there is great variety in the visual field defects. Terrien² reports two cases in which the lower part of the field was lost and thinks this was because of the greater toxic action in the upper part of the fovea in which part there would be relatively less blood on account of its normally superior position. The history, in our case, of the eyes being rolled up extremely far and remaining in this position while the child lay flat on her back for many hours, is interesting in this connection, for in our case the upper part of the fundus was dependant and was the part which preserved its function, substantiating so much of Terrien's theory as related to the fact that the dependant portion of the fovea preserves its function. Is it not simpler, however, to imagine that the cause of the preserved function of this part of the fovea is because of the better blood supply during the period of severest drain.

As in our case, the usual ophthalmoscopic picture is that of optic atrophy, though there may be also retinal hemorrhage.

About half of the cases tend to recover but not more than fifteen per cent, according to Singer,³ recover completely.

A number of pathologic examinations have

been made. Ziegler,⁴ in a case of blindness after uterine hemorrhage, found a fatty degeneration of the optic nerve and of its termination in the retina. Schmidt-Rimpler⁵ believes a retrobulbar neuritis must occur in some cases to account for the frequently found central scotomata. He found a proliferation of connective tissue with optic nerve atrophy. DeSchweinitz⁶ quotes Ward Holden as having found the pathologic lesion to be degeneration of retinal ganglion cells and their long processes which make up the centripetal fibres of the optic nerve.

Authors vary somewhat as to the location of hemorrhages causing this trouble, but agree that 75 per cent are from the stomach and intestines or the uterus. Epistaxis is the cause in about 8 per cent of cases.

Many authors, Schmidt Rimpler (*loc. cit.*), Bistis⁷ and others, have thought that some change in the composition of the blood might be the underlying cause of blindness when associated with hemorrhage. Our case occurred in an outstanding blood disease of which the chief characteristic is a great diminution of the blood platelets. That this is the cause of the amblyopia we do not even suggest, but would recommend careful ophthalmologic examinations of all cases of thromboplastic purpura.

The blood picture varied from time to time, depending on hemorrhages, transfusion, splenectomy, etc., and will be reported in detail by Dr. Clopton, who is presenting the surgical aspect of this and several other cases of thromboplastic purpura. Suffice it here to give only a few details of this important feature of this disease:

The bleeding time varied from 36 minutes upon admission, to one-half a minute, which it was immediately following transfusion and also two weeks after splenectomy. Clotting time, however, was always between 2½ and 3 minutes.

Red cells ranged from 2,500,000 immediately after the first transfusion to 5,090,000 two weeks after splenectomy.

White blood cells at one time were 53,000 and the differential count at different times varied between the following limits:

Polymorphonuclear leukocytes . . . 84% to 97%
Small mononuclear lymphocytes 3% to 15%
Large mononuclear lymphocytes 0% to 1%

To each count of 100 white cells from one to two nucleated red cells were seen.

Only five or six platelets were present in the counting chamber except immediately following transfusions, at which times the platelets became nearer normal, and after splenectomy,

since which operation the number of platelets has been about normal.

Metropolitan Building.

REFERENCES

1. Chevallereau, France Med., 1890.
2. Terrien, Paris Med., 1921, Vol. VII, p. 229.
3. Singer, Beitrage zur Augenheilk., Heft 53.
4. Ziegler, Beitr. zur Pathol. Anat. und Physiol., II, p. 57.
5. Schmidt-Rimpler, Erkrankungen des Auges in Zusammenhang mit anderen Krankheiten, p. 394.
6. DeSchweinitz, Diseases of the Eye, p. 649, sixth edition.
7. Bistis, Arch. d'Ophthalmologie, Vol. 28, p. 34.

HIGH BLOOD PRESSURE STASIS.—Whatever difference of opinion may exist regarding the factors concerned in the production of high blood pressure, Arthur R. Elliott, Chicago (*Journal A. M. A.*, May 28, 1921), says that general agreement must concede that when such a condition has come to pass it represents a state of circulatory strain. The net result of persistent high arterial blood pressure, after due allowance is made for physiologic factors of adjustment, is overwork to the dynamic side of the circulation—the heart and the arteries.⁸ For a variable period, compensatory adjustment proves adequate to maintain circulatory equilibrium, but in the course of time, demands on the heart resulting from the stress and strain of a continuously elevated blood pressure outrun cardiac adaptability, and exhaustion of the heart muscle supervenes with circulatory failure. The form of heart failure most frequently encountered is a gradual exhaustion of myocardial tonus, with the characteristic syndrome of progressive asthore and falling blood pressure. In still another group of cases the blood pressure formula remains but little altered, despite the steadily increasing circulatory embarrassment, and until the inevitable antemortem fall in pressure supervenes there exists the anomaly of a failing ventricle with a sustained blood pressure. The name "high blood pressure stasis" has been applied to this condition. High pressure stasis appears to possess certain interesting characteristic features. Chief among these are rapid pulse, gallop rhythm and pulsus alternans. Auricular fibrillation rarely if ever occurs. Pulsus alternans is a frequent development in these cases and, once present, is usually permanent. One of the most interesting and constant physical signs observed is the presystolic gallop rhythm. When once established it never wholly disappears, and it has proved a sign of grave significance. In high pressure stasis occurring as one of the phenomena of the terminal stage of chronic nephritis, blood nitrogen accumulation may attain high figures; whereas in non-nephritic cases but little waste nitrogen retention has been observed. The most striking characteristic of the blood pressure formula is marked and persistent elevation of diastolic pressure. A rather interesting feature of the state of advancing stasis is the general absence of edema. The nature of the causes which contribute to bring about this form of circulatory failure renders the prognosis a serious one, increasing in gravity according to the degree with which the vicious circle as between heart and arteries becomes more firmly established. There are but three measures of treatment that appear to exercise any control in this condition, and they are rest, venesection and digitalis.

SPOROTRICHOSIS.—Frank W. Cregor, Indianapolis (*Journal A. M. A.*, Sept. 2, 1922), asserts that sporotrichosis is more frequently encountered than any of the other dermatomycoses. It may attack many other tissues of the body besides the skin and manifest itself in a manner far removed from the usual clinical picture. A case in point is cited.

THE JOURNAL

OF THE

Missouri State Medical Association

MAY, 1924.

EDITORIALS

SPRINGFIELD IS READY FOR YOU

Prepare to attend the Springfield Session May 6, 7, 8. We want 500 physicians to lock their 500 desks, hang up their 500 office jackets and lie themselves to the "Queen City of the Ozarks" on the night of May 5 to make our Sixty-Seventh Annual Session the best in our history. Of course, the other 3,000 members ought to be there too and we hope they will come. Wouldn't that be something to brag about? It will not be the fault of the program nor the fault of the Greene County Medical Society if you are not amused, instructed and delighted with your visit.

The program committee has invited several guests, famous throughout the nation for their accomplishments and their interest in the organized medical profession. You have heard of these men; now come and meet them personally. They are: Drs. Wm. Allen Pusey, president elect of the American Medical Association and famous everywhere for his work in diseases of the skin. Dick Sutton may dispute honors with him for big game hunting (whisper, you do not have to believe all that Dick tells you about those African hunts) and Engman cannot be denied his priority in helping the lepers. Notwithstanding these rivalries you may rest assured that Dr. Pusey's message will encourage, interest and enlighten you. Then we shall have the speaker of the House of Delegates of the American Medical Association, Dr. F. C. Warnshuis, of Grand Rapids, Michigan. You ought to get acquainted with him. Besides being a surgeon of distinction—he was chief surgeon of the Pere Marquette Railroad for many years—he swings a wicked golf club and will make our members hustle to retain the cup in Missouri. The House of Delegates of the American Medical Association is a most important body and you ought to know about its workings. Another guest will be one of our own people transplanted to Baltimore, Maryland, Dr. W. E. Dandy, formerly of Sedalia, now professor of clinical surgery in Johns Hopkins Medical School. Dr. Dandy has become famous for his remarkable achievements in brain surgery. His visit will give us an opportunity of showing him that we are proud of his success and want to hear him tell us about his work.

The program committee has arranged for the House of Delegates of our Association to meet on Tuesday, the first day of the Session, and not allow its meetings to interfere with the reading and discussion of papers on scientific topics. The business affairs of the Association will be discussed and practically completed by the opening of the General Meetings, the later being scheduled for Wednesday and Thursday. This will prevent interruption of the scientific proceedings, an annoyance that has been the source of some irritation in previous meetings.

The Health Officers of Missouri will hold their annual conference on Tuesday. It is very likely they will have one or two workers in public health from other parts of the country.

The meeting of the County Society Secretaries Association will be held on Wednesday noon at the same time that they will have their annual banquet. These officers are the most hard working members of the Association, giving their time and service without remuneration and deserve the encouragement and appreciation of every member.

The Greene County Medical Society has prepared a program of entertainments that will please every member and make our visit one long to be remembered. The scientific program has been shortened so that every member may have time to fraternize, play golf or follow the players around the course, enjoy the beautiful country around Springfield in automobile rides and meet old friends and make new acquaintances. The Annual Session gives us our best opportunity of getting acquainted with one another, socially and professionally.

The golf tournament will be an interesting contest. The course is shaping up splendidly and will be in excellent condition when we arrive. The Springfield club professional will supervise the tournament under the direction of the golf committee. The Greene County Medical Society has donated a beautiful gold-lined silver loving cup to be awarded to the winner. The tournament will be held on two days, May 7 and 8. Medal scores will be taken and it is probable that the sixteen highest scores will be kept for the finals on May 8. Members desiring to take part in the tournament are requested to send their entries at once to Dr. R. C. Lounsbury, Woodruff Bldg., Springfield.

Springfield is well supplied with hotels and clean rooming houses, but we urge members to make their reservations early. The Colonial Hotel will be headquarters. Write Dr. H. A. Lowe, Woodruff Building, chairman of the hotel committee, for reservations.

An interesting feature of this meeting will be the scientific exhibits. Three exhibits are

scheduled, one by Dr. Wm. W. Duke, of Kansas City, on pollens; one by Dr. Willard Bartlett, of St. Louis, on goiter; one by Dr. Paul F. Cole, of Springfield, on the results of radium treatment.

We urge the interest of our members in the commercial exhibits. We have a larger number of exhibits reserved for this session than for several years in the past. Here you will find instruments, books and paraphernalia of various sorts needed in your daily work ready for you to inspect and select your supplies for another year.

DR. GEORGE A. JOHNS APPOINTED STATE HEALTH SUPERVISOR

The State Eleemosynary Board is to be commended for its action in appointing Dr. George A. Johns, of St. Louis, to the position of state health supervisor made vacant last December by the resignation of Dr. George A. Ard. The position is one of the highest importance to the state for upon the intelligent execution of the duties imposed upon this officer depend the harmonious activities of all the eleemosynary institutions, the sympathetic care of the inmates and the elevation of our state hospitals from the status of huge boarding houses into scientific institutions dedicated to the advancement of our knowledge of the cause, prevention and cure of mental diseases. Such was the intent of the law passed in 1921 consolidating all the boards into one board with a full time president and an experienced physician at the head of the medical department but three years have passed without even a beginning being made in that direction.

Dr. Johns has been connected with the city health service in St. Louis for more than eighteen years and most of his service has been in connection with the treatment of the insane at the City Sanitarium. For the last fourteen years he was superintendent of the City Sanitarium. In this position he earned an enviable reputation for quiet, consistent and effective control of the institution, the sympathetic and even affectionate co-operation of assistant physicians and employes and the application of scientific methods in the care of the inmates. In addition to this experience in the care of the insane and the control of a large hospital for mental diseases, so necessary in one occupying the position to which he has been appointed, Dr. Johns is endowed with a disposition and temperament that make him peculiarly well fitted to meet the problems that will confront him with intelligence, equanimity, poise and sympathy.

We believe the eleemosynary board has made an honest effort to obey the spirit as well as

the letter of the law. The personnel of the board is good and the enthusiastic interest in the growth of the institutions evinced by the president of the board, Colonel W. D. Fulkerson, has been transmitted to all the other members and to every officer and employe of the institutions. One of the chief purposes of the law is to lift the eleemosynary institutions out of the sphere of political spoils and we believe the board has made an earnest effort to fulfil this intent of the law. The unhappy experience with the first health supervisor, whose resignation was accepted last December, undoubtedly hampered the board and created a spirit of unrest in all the institutions that was exceedingly demoralizing and the medical profession, who supported the passage of the bill whole-heartedly, began to wonder whether we had not jumped from the frying pan into the fire. The medical profession feels a responsibility in the management of the medical affairs of these institutions that cannot be shirked for as a body we suffer loss of prestige in the minds of the people whenever disharmony appears in the medical care of the inmates. Yet political plotting to reward a favorite or pay a political debt has in practically all instances been responsible for such upheavals in our state institutions. Whether the first director obtained his appointment through political maneuvering or not we have no disposition to question. If it were so obtained and more suitable persons rejected, the mournful outcome ought to warn those who were responsible for his appointment against repeating the experiment.

We say these things—more, much more, could be said—because we want the eleemosynary board to know that the Missouri State Medical Association realizes its responsibility and is ready to co-operate with the board and assist it in the hard work that must be performed ere our state hospitals emerge from their present status and be lifted to the level of such institutions in other states where the light of scientific knowledge guides the medical staffs and brightens the outlook of the unfortunate inmates. In this desire to assist the board we have no selfish motive nor wish to dictate policies and procedures.

We do not believe the appointment of Dr. Johns is tainted with political influence. We think he would have declined consideration of the position if political influence had been a *sine qua non* because he knows and all experience proves that the acceptance of such a position by the favor of some politician defeats the essential purpose of the law and places upon the incumbent a handicap that all but destroys his usefulness.

We predict for Dr. Johns a highly successful

administration of the office he has assumed. We urge upon the board the extension to him of the fullest confidence and co-operation in the difficult work that lies before him and we appeal to every physician employed in the state hospitals to render loyal and faithful service to the new health supervisor. Only by such combined co-operation of the board, the supervisor, the physicians and employees, can the institutions attain that eminence in the care and treatment of mental diseases which the medical profession and all intelligent laymen hoped would follow the passage of the law.

MODIFYING THE BEHAVIOR OF THE DELINQUENT

Did you ever experiment with a habit? The question, of course, includes the assumption that the experiment is carried on in a scientific way and the data carefully recorded. We watch animals and human beings even casually and observe enough to enliven our interest in Pawlow's reports of his habit experiments. He has even shown that a reaction to a given stimulus in the case of mice will occur with a less number of repetitions in succeeding generations.

The influence of hereditary tendencies in children is clearly recognized but no one disputes the fact that many inborn tendencies may lie dormant and never develop while continued repetition may establish a behavior habit contrasting vividly from the natural bent.

Many thousands of generations have come and gone and we are still struggling with very disturbing behavior reactions. We may not hope for a scheme or plan which will solve any large percentage of the problems but that should not deter us from making as earnest an effort as we are capable of. There is a growing belief among sociologists that the public schools constitute our best agency for the development of acceptable conduct reactions and that such additional equipment as may be of proven value should be furnished.

In this direction we have the school physician, the school nurse and the psychology department. Many of us think that the visiting teacher should be added. This is usually a woman with a teaching experience who has had training in psychiatric social work. She does not teach but connects herself with a school or schools close to each other and studies all children with conduct disorders, who may be referred to her by the principal, and helps in the solution of many problems of scholarships which are not solved in the schoolroom.

The trend of all this is that we must supply ourselves with the proper equipment to enable us to recognize very early in life the reactions that determine socially acceptable conduct.

Are there physical, psychological, mental, social and environmental factors which are determining the unwelcome behaviors and if so what are they and how may they be modified for the benefit of the individual and the community in which he lives? We think we have been shown a useful method by Healy, Adler and others and we are applying it in the psychiatric clinic.

We have now over a thousand well rounded studies of St. Louis children which will serve for years to come in the guidance of these children as well as the guidance of teachers, probation and truant officers, juvenile court judges, social workers and parents.

There has been time out of mind more or less acrimonious discussion between the legal and medical professions as to who was best fitted to judge questions of social conduct on the part of juveniles and adults. Slowly a better understanding on both sides is coming about.

It is only 12 or 15 years since the juvenile court idea had its beginning in Chicago, and now they have built an entirely separate plant on the West Side, far removed from the other courts, where psychiatrists, psychologists, and social workers center their efforts on the study and solution of the problems of children. We cannot work plaster after it has set. Neither can we hope to make good conduct an ingrained habit unless we get the individual under guidance while still plastic.

We still fail miserably in the study, classification and treatment of adults who transgress the law. Even the obviously feeble-minded are punished, in the vain hope that it will bring about more acceptable behavior. Recent surveys in St. Louis have shown many instances of 50 to 100 arrests of the same benighted individual. Apparently we do not know what else to do and we by habit keep on doing the same thing we have always done.

In 1921 Massachusetts passed a law providing for the systematic examination by the Department of Mental Diseases of those indicted for felony by a grand jury and for repeated offenders. While not yet working to fullest usefulness, this law represents the most forward step in the right direction. We have brought the outline of this law to the attention of the judges in general term in St. Louis and we hope to interest them in helping to place on the statute books of Missouri a similar provision.

We have the beginning of a Department of Mental Diseases in Missouri and we can with some effort complete its organization. We need to make the field of neuropsychiatry more attractive by increasing its rewards. Forms of illness which fill one-half of the hospital beds

of the country are worthy of our best attention and effort.

THE CITIZENS' MILITARY TRAINING CAMPS

Attention of youths as well as parents of the country again is being invited to the opportunity offered young men of good character between 17 and 24 years old to enjoy a month of outdoor life, invigorating exercise, physical development, good food, shelter, sports, free clothing outfit and free transportation by attendance at the 1924 Citizens' Military Training Camps which will be held in the 7th Corps Area at Fort Leavenworth, Fort Des Moines and Fort Snelling from August 1 to 30.

Scores of young men in Missouri and Arkansas already have applied to the Chief of Staff, 102d Division, Old Custom House, St. Louis. Since the course of instruction is progressive for each year, students are sent, according to their previous training, either to the Basic, the Red, the White or the Blue course.

From a medical viewpoint it is interesting to note that all of the applicants are examined physically before they are accepted. A second examination is made on the day of arrival in camp. These examinations alone serve a useful purpose in disclosing at an early stage in life defects many of which can still be corrected. The importance of inoculation against typhoid and smallpox is emphasized by requiring inoculation and vaccination before the student reports to camp.

Last year the Surgeon General instituted the plan of utilizing the Citizens' Military Training Camps throughout the country to determine the prevalence of certain endemic diseases. At the camp at Fort Leavenworth, Kansas, being made up of students from Missouri, Arkansas and Kansas, surveys were made for malaria and hookworm, with the following results:

Malaria, rate per thousand, Missouri 23.81; Arkansas 14.91; Kansas 0.00.

Hookworm, rate per thousand, Missouri 0.00; Kansas 0.00; Arkansas 19.72.

This plan is to be continued.

That the medical profession contains men of genuine patriotic caliber is evidenced by the fact that in Missouri 1,703 and in Arkansas 733 physicians have volunteered to conduct physical examinations and administer the inoculations for typhoid free of charge to applicants who have been accepted. Serum is furnished for this by the government. The smallpox vaccination must be obtained at the student's own expense unless he is able to have it done at some Army, Navy or Marine Corps recruiting station, Army Post or U. S. Health or Veterans' Bureau station.

Greater attention is being given in these camps this year than ever before to physical development. Officers who are experts in coaching are assigned as instructors in athletics. Baseball, volley ball, tennis, swimming, riding, boxing, wrestling and other games are available to students.

Records made at Fort Snelling in 1923 show that the average gain in weight during the camp was 2.02 pounds per student, at Fort Des Moines it was 3.5 pounds and at Fort Leavenworth 4.4 pounds. Of 226 men studied at Leavenworth, 191 gained weight and 35 lost. The report states that "almost without exception the light-weights gained and the heavy-weights lost." At Des Moines the average gain in height was .64 inches, and the gain in inspiration averaged .3 inch.

Boys who have attended these camps invariably are enthusiastic and lavish in their praise. At a Fort Sill camp the boys were asked at the close of the camp whether they liked the camp and 96 per cent said "yes," while 95 per cent said they wanted to come back the next year. Over 98 per cent said the work was not too hard while 99 per cent said it was interesting. Sixty-one per cent gained in weight. It is interesting to note that 96 per cent said the influence had tended to make them better citizens.

Applications from Missouri and Arkansas should be made to the Chief of Staff, 102d Division, St. Louis; those from Kansas, Nebraska, North and South Dakota, Iowa and Minnesota can be made to the C. M. T. C. Officer, 7th Corps Area, Army Building, Omaha, Nebraska.

NEWS NOTES

WORD has been received of the marriage of Dr. Paul Funkhouser, of St. Louis, and Miss Gertrude Toles, daughter of Dr. Justin Toles, at Hillsboro, Mo., April 7, 1924.

DR. GUY MITCHELL, of Branson, secretary of Taney County Medical Society, has filed as a candidate for the State Senator in the 19th District. Dr. Mitchell was a member of the House of Representatives from his county in the 49th General Assembly.

DANIEL W. FARRINGTON, the father of two of our members, Dr. F. B. Farrington, of Kirksville, and Dr. O. P. Farrington, of Greentop, died March 14, aged 78 years. He was buried at Aurora. Another son, Dr. A. W. Farrington, is a practicing dentist at Aurora.

DR. CURTIS H. LOHR has been appointed superintendent of the Isolation Hospital at St.

Louis to succeed Dr. Francis E. Cullen, who died from scarlet fever March 12. Dr. Lohr graduated from Washington University Medical School in 1922 and has been in the service of the city institutions since that time.

THE federal grand jury at Washington, D. C., has returned indictments against several persons involved in the diploma mill scandal, according to newspaper dispatches. Those indicted are Bishop Helmuth P. Holler, president of the Oriental University; Dr. Ralph A. Voigt, Kansas City, Mo., and Dr. Robert Adcox, St. Louis.

FORTHCOMING examinations by the National Board of Medical Examiners will be held as follows: Part I, June 19, 20, 21; Part II, June 20, 21. All applications for these examinations must be made on or before May 15. Further information may be obtained from the Secretary, Dr. J. S. Rodman, 1310 Medical Arts Building, Philadelphia, Pa.

THE State Board of Health has established a diagnostic laboratory, to be known as "The State Board of Health Laboratory," at room 434, Capitol Building, Jefferson City. This laboratory will be available for the examination of all specimens that will assist in the diagnosis and control of diseases that are of public health importance.

AT the invitation of the Massachusetts Institute of Technology, a working conference in health education is to be held June 23-28 at Cambridge, Massachusetts. The conference called by the Health Education Division of the American Child Health Association will be limited to 100. Registration must be made in advance. Address Emma Dolfinger, 370 Seventh Avenue, New York City.

MAGNUSON X-Ray Company, of Omaha, Nebraska, with a branch office in Kansas City, Missouri, has renewed their advertisement in our pages and it will appear in the next twelve issues in full page space. This company is a large dealer in X-ray equipment and supplies and we bespeak for them the interest of our members in their announcement, page XVIII. They will display their machines and apparatus at our Springfield session.

A COURSE of post-graduate work in St. Louis May 26 to June 7, has been arranged by the St. Louis Clinics for the benefit of visiting physicians. All the principal hospitals in the city are co-operating with the Clinics to make

the undertaking a success. Physicians who desire to take advantage of this opportunity will find clinical work in every department of medicine. Their announcement appears in the advertising section, page XV.

DR. W. H. MINTON was elected a member of the City Council of St. Joseph at the recent city election. Dr. J. M. Bell was elected a member of the school board. Two druggists were elected, W. E. Harrington, a member of the City Council, and A. J. Clark a member of the school board. Previous to the recent election Dr. J. I. Tucker and W. C. Bender, a druggist, were members of the City Council. Dr. H. W. Carle and Dr. B. W. Tadlock were members of the board of health previous to the recent election.

THE assistant physicians of the eleemosynary institutions of the state have formed an organization which will meet bi-monthly at the various institutions to discuss the problems that are met with in their work. Dr. D. H. Young, assistant physician at State Hospital No. 1, Fulton, was elected president of the association, and Dr. B. T. Brown, assistant physician at State Hospital No. 4, Farmington, was elected secretary. The first meeting was held at Fulton, March 30. The May meeting was held at the Colony for the Feeble-minded, Marshall.

DR. GEO. CLARK MOSHER, of Kansas City, Vice President of the American Association of Obstetricians and Gynecologists, and Dr. Joseph B. DeLee, Professor of Obstetrics at Northwestern University Medical School, Chicago, were guests of honor at a dinner given Thursday evening, March 28, by Dr. A. J. Skeel, President of the Cleveland Academy of Medicine, at the Cleveland Athletic Club. Dr. Mosher gave a paper on "Maternal Mortality," and Dr. DeLee an illustrated discussion of the "Low Cervical Incision in Cesarean Section," by invitation of the Academy following the dinner.

THE State Board of Health in conjunction with the Department of Public Welfare of St. Louis and the Missouri Social Hygiene Association, conducted a social hygiene exhibit at St. Louis during the week of April 14 to 20. Dr. R. L. Russell, director of the Bureau of Venereal Diseases of the State Board of Health, had charge of the exhibit. Addresses were made at the opening of the exhibit by Director of Public Welfare Cunliff, St. Louis, and Dr. Martin F. Engman, St. Louis, president of the Missouri Social Hygiene Association. A fourteen reel motion picture, "The

"Gift of Life," was shown twice a day during the exhibit.

"PRESIDENT'S NIGHT" is the occasion for the members of Jackson County Medical Society to gather at a dinner once a year and talk of past achievements and future undertakings. On April 1 the dinner took place at the University Club in Kansas City with Dr. Scott P. Child, the president, presiding. Dr. J. D. Griffith, president of the Society in 1910, gave the members a very entertaining and characteristic talk about medical practice in the early days of Kansas City. Other speakers were Dr. Robert T. Sloan, president of the Society in 1904; Dr. Joseph L. Miller, Professor of Medicine, Rush Medical College and Editor of *Archives of Internal Medicine*, Chicago; Dr. Guy L. Noyes, Dean, Medical Department, University of Missouri, Columbia.

By the will of Mrs. Minnie Wood, filed in the probate court in St. Louis April 14, the charitable institutions conducted by Dr. E. W. Saunders will receive about \$200,000. The institutions are the Bethesda Hospital, the Bethesda Home for Foundlings and the Bethesda Old Ladies' Home. The estate was involved in litigation for some time owing to the suit of Mrs. Wood for her dower right after the death of her husband. The Bethesda Home was a beneficiary under the will of Mr. Wood, but renounced its right to any part of the estate when Mrs. Wood entered her suit. By the terms of her will the institutions will receive a cash bequest of \$5,000 and one-fourth interest in the residue of the estate, which is estimated to be about one million dollars. The will also provides that a sum not exceeding \$35,000 shall be used for purchasing a playground as a recreation park to be donated to the city of St. Louis and to be known as the "Minnie Wood Memorial Square."

JACKSON County Medical Society invited candidates for mayor of Kansas City to attend the meeting of the Society and talk to the members just before the municipal election in April. The invitation was accepted by Mayor Cromwell, who appeared in person and the other candidates for mayor, Mr. A. I. Beach, who sent Mr. H. M. Beardsley to speak for him. Mr. Wade, a member of the Board of Health of Kansas City, was also present. Mayor Cromwell assured the Society that the city administration was supporting the General Hospital as conducted at present and was anxious to co-operate in every way with the Jackson County Medical Society. Mr. Beardsley discussed political and financial questions rather than health problems. Mr. Wade assured the

Society that the Board of Health desired the continuation of the present system of co-operation with the Jackson County Medical Society. Under this plan the Board of Health has given the Jackson County Medical Society the privilege of appointing the medical staffs of the city health institutions. Mr. Beach was elected mayor.

THE Shrine Hospital for Crippled Children at St. Louis was opened to the public informally on Sunday, April 13. The hospital is located at Kingshighway and Clayton Avenues, near the Barnes Hospital and has a capacity for eighty children but has adequate equipment for many more children as out-patients. The hospital represents an outlay in cash estimated to be from \$800,000 to \$900,000. Only children whose parents or guardians are unable to pay for treatment will be received in the institution. The children must be under fourteen years of age and the condition capable of being corrected to such an extent that the child may be rendered self-supporting in after life. It is not primarily a hospital for the afflicted children of Masons and Shriners but its doors will be open to children of all creeds and races. One of the first patients registered was a Catholic. The formal opening will take place in June when the Shriners will be moving toward Kansas City for the Imperial Council Session. Dr. Leroy C. Abbott is surgeon-in-chief and Dr. F. A. Jostes resident physician. On April 13 there were fifteen children in the hospital.

ERNEST G. H. MEYER, a Brooklyn chiropractor, convicted of second-degree manslaughter, was sentenced today to serve from one to two years in Sing Sing prison by Supreme Court Justice Hagarty, according to Associated Press dispatches from New York City. Meyer was found guilty in connection with the death of 6-year-old Caroline Germuth, who died of diphtheria.

Counsel for Meyer told the court that the chiropractic had treated the little girl for two years, bringing her "from a state of helplessness to something resembling health."

In pronouncing sentence Justice Hagarty said: "You held yourself out as one competent to cure disease. Diphtheria is a serious disease. If scientifically treated, however, the ratio of mortality is low. You took the responsibility of treating that case and you have been held accountable for it. You must take the consequences.

"Your conviction will serve as a warning to all parents responsible for children and to adults who have a responsibility to themselves as well as to all persons who practice medicine illegally."

DR. WALTER H. RANKIN, of Glasgow, Scotland, it is reported, was arrested at St. Louis, April 10, charged with violating the Harrison Narcotic Act, obtaining money under false pretences and practicing medicine without a license. According to his story, told to the press, Rankin graduated from the school of medicine of the Glasgow University in 1903 and after a period of private practice he discovered a cure for cancer. A jail sentence for issuing death certificates without a license interrupted his career but when he was released at the end of eighteen months he started to work on his formula. He got into further difficulties in Scotland, being arrested for obtaining money under false pretences and his medical diploma was revoked. Then he decided that America was a good place to try out his cancer cure. After a checkered career in New York and other cities he landed in St. Louis without funds and applied to the Masonic Relief Association for aid as a fellow-Mason. A cablegram to the lodge to which he said he belonged brought the answer that the lodge had never heard of him. His arrest followed.

Two chiropractors, H. T. Jett and his wife, Mrs. Blanche Jett, of St. Louis, were arrested by the Health Department of that city, April 10, for practicing medicine without a license, according to statements appearing in the St. Louis newspapers. It is stated that the Jetts treated a woman by their peculiar so-called system of healing, who was suffering from advanced cancer and that she died while under the care of the chiropractors. The woman had been treated by regular physicians for some time and had been told that her condition was past curing. A coroner's inquest found that the woman died from cancer, but our liberal laws on health protection of the people make no provision for the coroner to lay a criminal charge against persons under such circumstances. The only crime, according to our statute, that these people committed was the violation of the medical practice act which is very lightly punishable by a fine or jail sentence. In releasing the chiropractors pending trial a bond in the sum of \$200 was all that was required. Jett's behavior in violating the medical practice law did not, it seems, prevent his employment by the Board of Education of St. Louis, for it is reported that he is a teacher in the Soldan High School.

THE United States Public Health Service has inaugurated a laboratory investigation of trachoma and has detailed Dr. Ida A. Bengston of the Hygienic Laboratory, Washington, D. C., to carry on the work. Headquarters will be maintained in the bacteriological lab-

oratory, Department of Hygiene, of the Missouri School of Mines and Metallurgy. The work is being conducted in collaboration with the Trachoma Hospital maintained in Rolla by the Public Health Service in cooperation with the Missouri State Board of Health.

The proximity of the Trachoma Hospital to the School of Mines and the excellent laboratory facilities of the latter offer advantages for a laboratory study hitherto not attainable in other localities in which trachoma hospitals have been established by the Public Health Service.

The investigation is being directed toward a better understanding of the disease. Trachoma is widespread and occurs in many parts of the world. Though not important as a cause of death, the disease is a serious one because it may lead to impairment of vision and possible blindness if untreated. The responsible agent for the disease is not yet definitely known, and the laboratory work contemplated is mainly concerned with investigation along this line.

ESSAYS will be received in competition for the Samuel D. Gross prize of fifteen hundred dollars until January 1, 1925.

The conditions annexed by the testator are that the prize "shall be awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens."

It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form, and that he shall deposit one copy of the work in the Samuel D. Gross Library of the Philadelphia Academy of Surgery, and that on the title page it shall be stated that to the essay was awarded the Samuel D. Gross Prize of the Philadelphia Academy of Surgery.

The essays, which must be written by a single author in the English language, should be sent to the "Trustees of the Samuel D. Gross Prize of the Philadelphia Academy of Surgery, care of the College of Physicians, 19 S. 22d St., Philadelphia," on or before January 1, 1925.

Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The Committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The Committee reserves the right to make

no award if the essays submitted are not considered worthy of the prize.

THE Koch Hospital at St. Louis, the municipal institution devoted to the care of tuberculous patients, was inspected recently by a committee of the St. Louis Tuberculosis Society and the management and physical equipment were highly praised. The committee, of which Mrs. M. A. Goldstein is chairman, reported that Koch Hospital is one of the best operated institutions in the country as a result of improvements made in the last few years.

The committee made these conclusions despite finding on its survey that the hospital was overcrowded and has a waiting list for the first time in its history. Asserting that there are approximately sixty persons waiting to be admitted to the institution for treatment, the report stated that this condition emphasized the need for new buildings, which are to be erected in the near future. To take care of the patients on the waiting list until the new buildings are available, the administration building is being used.

T. B. Kidner, New York architect, who was brought to St. Louis recently by the society at the invitation of Director of Public Welfare Cunliff to assist in making provision for the separate housing of the tuberculous insane, will return soon to make final inspection of the plans for the proposed new buildings, according to Mrs. Goldstein. He has made several visits to the city in the last year and superintended the drawing of plans for the new buildings, which include another building for patients, larger dining room and kitchen equipment, and nurses' quarters.

Dr. A. R. Sweeney of the United States Public Health Service, who is medical director of the Tuberculosis Society of St. Louis, and a member of the National Tuberculosis Association, said the institution is equal in equipment and personnel to any other hospital of its kind in the United States and is superior in many respects to the majority. Dr. H. I. Spector is superintendent of the institution.

Dr. Joseph F. Bredeck, tuberculosis controller, who has general supervision over the hospital, gave the committee statistics, showing that the death rate at the hospital has been lowered considerably in the last two years. He declared these statistics were evidence that if cases of tuberculosis were received in early stages they could be cured.

THE Banting Research Foundation has been organized to commemorate the discovery of insulin by Dr. F. G. Banting and Mr. C. H. Best. This discovery is one of the most out-

standing advances made in scientific medicine during the past thirty years.

Dr. Banting has received appropriate recognition from the Government of the Dominion of Canada (in the form of an annuity); from the Province of Ontario through the Governors of the University of Toronto (in the creation of the Banting and Best Chair of Medical Research, to which Dr. Banting has been appointed) and in the award of the Nobel Prize in Medicine for 1923 (with Professor J. J. R. McLeod).

From the moment that Dr. Banting realized the success of his work, and that an important step had been taken in alleviating the sufferings of humanity, he has been most anxious that his success should serve as a stimulus to other workers and he has laid stress upon this point frequently. In a measure his desires have been fulfilled and already two workers inspired by him have made substantial progress in valuable researches. Such investigations have only served to emphasize the great need of a fund from which assistance could be given to men with promising ideas but without adequate facilities. It is owing to the realization of the necessity for just this type of assistance that the Foundation has been organized.

The purposes of the Banting Research Foundation have been specifically defined to be:

(a) To supplement the sum at present available, in the University of Toronto, for the support of the Banting and Best Chair of Medical Research.

(b) To establish a fund for the adequate financial support of such scientific workers as may have proposed definite problems of medical research, and for whom funds are not otherwise available. Such assistance may be given to persons working in the University of Toronto or elsewhere.

All financial arrangements in connection with the collection and reception of the principal and subsequent expenditure of the income of the fund is vested in a Board of Trustees, the members of which are appointed for a term of three years subject to reappointment at the end of their respective terms of office.

A definite provision has been made that, before making grants to investigators, the trustees shall be advised by a committee of men qualified in the various branches of medical science.

The trustees of the Foundation feel sure that its objects will make a strong appeal to many persons. They undertake to devote all contributions to the purposes of the Foundation and they have great confidence in appealing for a very substantial sum of money. Will you not contribute to the Foundation or, if

you are quite prevented from so doing, will you not help in the raising of this fund which will mark the accomplishment of a great step forward in aiding humanity?

Cheques should be drawn in favor of the Banting Research Foundation, and should be forwarded to the Honorary Secretary, F. Lorne Hutchison, Toronto, Canada.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

- Chariton County Medical Society, December 13, 1923.
- Camden County Medical Society, January 17, 1924.
- Madison County Medical Society, January 19, 1924.
- Cooper County Medical Society, January 19, 1924.
- Platte County Medical Society, January 22, 1924.
- Morgan County Medical Society, January 23, 1924.
- Cape Girardeau County Medical Society, January 24, 1924.
- Clark County Medical Society, February 11, 1924.
- Dent County Medical Society, March 5, 1924.
- Adair County Medical Society, March 5, 1924.
- Howell County Medical Society, March 11, 1924.
- Taney County Medical Society, March 20, 1924.
- Vernon County Medical Society, March 22, 1924.
- Schuyler County Medical Society, March 24, 1924.
- Atchison County Medical Society, March 25, 1924.
- Ray County Medical Society, April 2, 1924.

HOWELL COUNTY MEDICAL SOCIETY

The Howell County Medical Society met in regular session March 27, 1924, in the Odd Fellows' Hall, West Plains, Dr. D. D. Cox presiding.

Members present were Drs. D. D. Cox, Pomona; E. C. Bohrer, R. A. Sparks, D. J. Nichols, A. H. Thornburgh, W. L. Davis, P. D. Gum, J. W. Bingham, West Plains; J. C. B. Davis, Willow Springs; H. A. Thompson, Lanton; C. F. Greene, Bakersfield, Mo.

The financial report of Dr. Gum for the last year showed a balance of \$13.55 in the treasury.

Dr. A. H. Thornburgh was elected delegate to the Springfield meeting and Dr. E. C. Bohrer alternate.

The proposed amendment to Article VIII, Section 2, of the constitution was approved and the delegate so instructed.

Dr. D. J. Nichols was elected to honorary membership.

Dr. P. D. Gum read a very timely and instructive paper on "Fees and Collections," which was ably discussed by Drs. J. C. B. Davis, W. L. Davis, Thompson, Sparks and Greene.

A motion by Dr. Gum for the appointment of a committee to draft a new schedule of fees and present it to the society at the next regular meeting was adopted and the following committee appointed: Drs. Gum, Thornburgh, and J. C. B. Davis.

Dr. A. H. Thornburgh made a short talk on the use of the microscope in diagnosis.

The Society adjourned until the next regular meeting April 24.

E. CLAUDE BOHRER, M. D., Secretary.

PETTIS COUNTY MEDICAL SOCIETY

Pettis County Medical Society met in regular session in the court rooms at Sedalia Monday, April 7, at 8 p. m. Eighteen members were present.

Following a short business session a symposium by local physicians on the subject of Dyspnea was given. The following papers were read: Cardiac Dyspnea, by Dr. A. L. Walter; Renal Dyspnea, by Dr. E. A. Monroe; Respiratory Dyspnea, by Dr. D. E. Shy; Dyspnea of Acidosis, by Dr. D. P. Dyer.

Dr. J. G. Love gave a short talk on the relation of nasal and sinus pathology to dyspnea. Two illustrative cases were presented. A general discussion followed. The general opinion was that the program was well worth while.

At the next meeting it is planned to have a banquet and an out-of-town speaker.

The society voted to administer the Schick test to as many children of school age and pre-school age, as possible. Saturday, April 12, from 10 a. m. to 12 m. was the date decided on. The test is to be given free of charge.

J. W. BOGER, M. D., Secretary.

TANEY COUNTY MEDICAL SOCIETY

Taney County Medical Society met at Branson, March 20, and elected the following officers: President, John A. Mitchell; secretary, Guy B. Mitchell; delegate to Springfield meeting, Guy B. Mitchell.

Dr. Harry T. Evans, of Hollister, was elected to membership.

GUY B. MITCHELL, M.D., Secretary.

MISSOURI STATE MEDICAL ASSOCIATION
67TH ANNUAL MEETING

The 67th annual meeting of the Association convenes at Springfield, Tuesday, Wednesday, Thursday, May 6, 7, 8. The program follows:

THE COUNCIL

TUESDAY, MAY 6, 1 P. M.—SHRINE MOSQUE

- 1st District.....Austin McMichael, Rockport
- 2nd District.....H. S. Conrad, St. Joseph
- 3rd District.....A. H. Vandivert, Bethany
- 4th District.....Geo. M. Bristow, Princeton
- 5th District.....J. R. Bridges, Kahoka
- 6th District.....J. W. Martin, Kirksville
- 7th District.....T. J. Downing, New London
- 8th District.....B. P. Wentker, St. Charles
- 9th District.....A. R. McComas, Sturgeon

10th District.....	D. A. Barnhart, Huntsville
11th District.....	G. W. Hawkins, Salisbury
12th District.....	Spence Redman, Platte City
13th District.....	Geo. E. Bellows, Kansas City
14th District.....	C. T. Ryland, Lexington
15th District.....	L. J. Schofield, Warrensburg
16th District.....	T. B. M. Craig, Nevada
17th District.....	Guy Titsworth, Sedalia
18th District.....	J. P. Burke, California
19th District.....	W. A. Clark, Jefferson City
20th District.....	A. H. Hamel, St. Louis
21st District.....	Thos. F. Estel, Altenburg
22nd District.....	H. L. Reid, Charleston
23rd District.....	T. J. Rigdon, Kennett
24th District.....	T. W. Cotton, Van Buren
25th District.....	R. W. Gay, Ironton
26th District.....	W. H. Breuer, St. James
27th District.....	J. C. B. Davis, Willow Springs
28th District.....	A. L. Anderson, Springfield
29th District.....	R. L. Wills, Neosho

DELEGATES

COUNTY	DELEGATE	ADDRESS
Adair	J. W. Martin.....	Kirksville
Atchison	Chas. E. Benham.....	Tarkio
Audrain	Fred Griffin.....	Mexico
Barton		
Barry	J. M. Russell.....	Monett
Bates	Geo. A. Delamater.....	Rich Hill
Benton	J. P. VanAllen.....	Cole Camp
Boone	J. E. Thornton.....	Columbia
Buchanan	{ H. W. Carle..... } { C. H. Wallace..... }	{ St. Joseph
Butler	W. L. Brandon.....	Poplar Bluff
Caldwell	Geo. S. Dowell.....	Braymer
Callaway	G. D. McCall.....	Fulton
Camden	G. T. Myers.....	Macks Creek
Cape Girardeau.....	D. H. Hope.....	Cape Girardeau
Carroll		
Carter-Shannon		
Cass	J. S. Triplett.....	Harrisonville
Cedar	L. T. Dunaway.....	Eldorado Springs
Chariton	J. W. Hardy.....	Sumner
Christian	F. H. Brown.....	Billings
Clark		
Clay	J. H. Rothwell.....	Liberty
Clinton		
Cole		
Cooper	A. L. Meredith.....	Prairie Home
Crawford	W. J. Parker.....	Steelville
Daviess	L. R. Doolin.....	Gallatin
Dekalb	H. P. Yeater.....	Maysville
Dent	W. E. Rudd.....	Salem
Dunklin	J. A. Hoague.....	Holcomb
Franklin		
Gasconade-Maries-Osage	F. J. Wessling.....	Freeburg
Gentry		
Greene	J. W. Love.....	Springfield
Grundy	C. H. Cullers.....	Trenton
Harrison		
Henry	S. A. Poague.....	Clinton
Holt		
Howard		
Howell	A. H. Thornburgh.....	West Plains
Iron	Conway Bates.....	Ironton
1924		
Jackson	Buford G. Hamilton.....	Kansas City
	James R. McVay.....	
	Paul V. Woolley.....	
	Edward H. Skinner.....	
1924-25		
Watson	Watson Campbell.....	Kansas City
	John Aull.....	
	Nimrod P. Wood.....	
	Geo. E. Knappenberger...	
Jasper	A. B. Clark.....	Joplin
Jefferson	N. W. Jarvis.....	Festus
Johnson	H. F. Parker.....	Warrensburg
Knox		
Laclede	J. A. McComb.....	Lebanon
Lafayette	A. J. Chalkley.....	Lexington

DELEGATES—Continued

COUNTY	DELEGATE	ADDRESS
Lawrence-Stone	T. T. O'Dell	Aurora
Lewis		
Lincoln		
Linn		
Livingston		
Macon		
Madison	M. B. Barber	Fredericktown
Marion	T. A. Roselle	Palmyra
Mercer		
Miller		
Mississippi	S. P. Martin	East Prairie
Moniteau	L. L. Latham	Latham
Monroe		
Montgomery	J. T. Leslie	Rhineland
Morgan		
New Madrid		
Newton	A. W. Benton	Neosho
Nodaway	C. P. Fryer	Maryville
Oregon	J. L. Eblen	Alton
Pemiscot	J. W. Johnson	Hayti
Perry	G. A. Blaylock	Perryville
Pettis	A. J. Campbell	Sedalia
Phelps		
Pike		
Platte	E. R. Hull	Camden Point
Pulaski	L. E. Rolens	Dixon
Polk		
Putnam	C. P. Vores	Unionville
Ralls	H. B. Norton	Center
Randolph	F. L. McCormick	Moberly
Ray	R. L. Hamilton	Richmond
Reynolds	J. R. Pyrtle	Centerville
Saline	L. I. Shuck	Nelson
St. Charles	A. P. E. Schulz	St. Charles
St. Clair		
St. Francois		
Ste. Genevieve	J. A. Wilkins	St. Marys
	1924	
	John C. Morfit	St. Louis
	Louis H. Behrens	
	E. Lee Dorsett	
	Malvern B. Clopton	
	Walter C. G. Kirchner	
	Jules M. Brady	
	Chas. E. Hyndman	
	Wm. L. Clapper	
St. Louis City	Louis Rassieur	
	Carroll Smith	
	1924-25	
	R. E. Schlueter	Webster Groves
	Emmett P. North	
	Max Starkloff	
	Rudolph S. Vitt	
	Harvey McKay	
St. Louis County	Clyde P. Dyer	
Schuyler		
Scott	T. R. Fraser	Commerce
Shelby		
Stoddard	Frank LaRue	Dexter
Sullivan		
Taney	Guy B. Mitchell	Branson
Texas		
Vernon	E. A. Dulin	Nevada
Washington		
Wayne		
Webster	E. M. Bailey	Elkland
Worth		
Wright-Douglas	E. C. Witwer	Mountain Grove

PROGRAM

HOUSE OF DELEGATES

FIRST DAY—TUESDAY, MAY 6, 1924—9:30 A. M.

WEST CORRIDOR, SHRINE MOSQUE

Roll Call.

Reading of Minutes of Previous Meeting.

Reading of President's Message and Recommendations.

Report of Committee on Arrangements.

Report of Secretary.

Report of Treasurer.

Report of Committee on Scientific Work.

Report of Committee on Health and Public Instruction.

Report of Defense Committee.
 Report of Committee on Medical Education.
 Report of Committee on Hospitals.
 Report of Committee on Cancer.
 Report of Committee on Vaccination.
 Report of Committee on Blindness.
 Report of Committee on Constitution and By-Laws.
 Appointment of Committee on Nominations.

Recess till 3 P. M.

Report of the Council.
 Report of Reference Committees.
 Reading of Resolutions, Memorials, etc.
 Selection of Place of Next Meeting.
 Miscellaneous Business.

SECOND DAY—WEDNESDAY, MAY 7, 1924—2 P. M.

WEST CORRIDOR, SHRINE MOSQUE

Reading of Minutes.
 Report of Nominating Committee.
 Election of Officers.
 Unfinished Business.

GENERAL MEETING

WEDNESDAY, MAY 7, 1924—9:00 A. M.

AUDITORIUM, SHRINE MOSQUE

Influence of the Etiology Upon the Treatment of Pneumonia.....Dan G. Stine, M.D., Columbia
 Some Practical Suggestions in the Use and Administration of Insulin.....W. H. Olmsted, M.D., St. Louis
 Discussion Opened by Dr. Donald R. Black, Kansas City
 The Treatment of Nephritis Based on Underlying Pathology.....O. P. J. Falk, M.D., St. Louis
 Creatin Test for Renal Function.....Ralph H. Major, M.D., Kansas City
 Discussion Opened by Dr. John R. Caulk, St. Louis
 The Treatment of Gonorrheal Rheumatism.....Ralph A. Kinsella, M.D., St. Louis
 Treatment of Cardiovascular Lues.....Paul B. Stookey, M.D., Kansas City
 Discussion Opened by Dr. Frank J. Ridge, Kansas City

GENERAL MEETING

WEDNESDAY, MAY 7, 1924—1:30 P. M.

AUDITORIUM, SHRINE MOSQUE

Periodic Health Examinations.....Edmund Lissack, M.D., Concordia
 Discussion Opened by Dr. Ernest F. Robinson, Kansas City
 The Essentials of a Gynecological Examination.....R. S. Tilles, M.D., St. Louis
 The Methods of Reducing Maternal Mortality.....George Clark Mosher, M.D., Kansas City
 Some Experiences with Meningitis with Report of a New Sign.....T. Wistar White, M.D., St. Louis
 The State-Wide Prevention of Diphtheria.....Frank C. Neff, M.D., Kansas City
 Parenteral Infections as a Factor in the Production of Autonomic Imbalance in Infants.....Park J. White, M.D., St. Louis
 Discussion Opened by Dr. Frank C. Neff, Kansas City
 Practical Experience with Quartz Light in Diseases of Children.....John Zahorsky, M.D., St. Louis

GENERAL MEETING

WEDNESDAY NIGHT, MAY 7, 1924—7:30 P. M.

PRESIDENT'S RECEPTION

AUDITORIUM, SHRINE MOSQUE

President's Address.....G. Wilse Robinson, M.D., Kansas City
 The American Medical Association and Its Constituent Societies.....Wm. A. Pusey, M.D., Chicago, Ill.
 President-Elect, American Medical Association.
 F. C. Warnshuis, M.D., Grand Rapids, Mich.
 Speaker, House of Delegates, American Medical Association.
 Dancing

GENERAL MEETING

THURSDAY, MAY 8, 1924—9:00 A. M.

AUDITORIUM, SHRINE MOSQUE

- Medical and Surgical Problems in Peptic Ulcer.....
Claude J. Hunt, M.D., Kansas City
 Discussion Opened by Dr. J. R. McVay, Kansas City
 Acute Surgical Abdomen.....Charles E. Hyndman, M.D., St. Louis
 X-Ray Localization of Brain Tumors by Air Injection of Ventricles.....
W. E. Dandy, M.D., Baltimore, Md.
 Discussion Opened by Dr. W. E. Leighton, St. Louis
 Repair of Deformities Caused by Burns...W. T. Coughlin, M.D., St. Louis
 Discussion Opened by Dr. Ellis Fischel and Dr. F. J. Tainter,
 St. Louis
 Obstructions in the Upper Urinary Tract.....
Medical Procedure, J. C. Lyter, M.D., St. Louis
Surgical Procedure, Neil Moore, M.D., St. Louis
 Discussion Opened by Dr. F. M. McCallum, Kansas City
 Stone in the Ureter.....Clinton K. Smith, M.D., Kansas City
 Urologic Diagnosis for the General Practitioner.....
Bransford Lewis, M.D., St. Louis

GENERAL MEETING

THURSDAY, MAY 8, 1924—1:30 P. M.

AUDITORIUM, SHRINE MOSQUE

- The Injection of the Nasal Ganglion in Hay Fever.....
R. J. Payne, M.D., St. Louis
 Discussion Opened by Dr. E. R. Van Meter, St. Louis
 Common Manifestations of Allergy Observed in Clinical Practice.....
William W. Duke, M.D., Kansas City
 Studies in Gout.....Donald R. Black, M.D., Kansas City
 Methods Which Will Lessen the Time Necessary for Complete X-Ray
 Studies of Abdominal Conditions.....E. R. Deweese, M.D., Kansas City
 The Management and Clinical Results of Deep Therapy in Tumors of
 the Bladder and Prostate.....Paul C. Schnoebelen, M.D., St. Louis
 The Treatment of Superficial Skin Cancer by Electrocoagulation in
 Conjunction with Quartz Light Therapy.....
Ray C. Lounsberry, M.D., Springfield
 Our Roentgen Mistakes.....E. H. Kessler, M.D., St. Louis
 Discussion Opened by Dr. E. H. Skinner, Kansas City.

SCIENTIFIC EXHIBIT

EAST CORRIDOR, SHRINE MOSQUE

- Demonstration of the Common Pollens of This District. With Dry
 Extracts of Plants, Solutions, Methods of Extraction, and Method
 of Testing Patients for Sensitiveness to Pollens.....
Wm. W. Duke, M.D., Kansas City
 Goiter Models and Illustrations.....Willard Bartlett, M.D., St. Louis
 Photographic Demonstration of Cases Before and After Treatment
 With Radium. X-Ray Films or Diagnostic Purposes.....
Paul F. Cole, M.D., Springfield

PROGRAM

MISSOURI STATE HEALTH OFFICERS CONFERENCE

SPRINGFIELD, MAY 6, 7, 1924

TUESDAY, MAY 6, 9:00 A. M.

WEST CORRIDOR, SHRINE MOSQUE

Morning Session

- 9:00 to 10:30 A. M. Trachoma Clinic, Dr. John McMullen, Surgeon, U. S.
 Public Health Service.
 10:30 to 11:00 A. M. President's Address, Dr. T. H. Wilcoxon, Bowling
 Green.
 11:00 to 11:15 A. M. Secretary's Report, Dr. Cortez F. Enloe, Health Com-
 missioner, Jefferson City.
 11:15 to 11:30 A. M. Dr. Emmett P. North, President, State Board of
 Health, St. Louis.

- 11:30 A. M. Problems of Deputy State Health Commissioners,
Dr. W. E. Rudd, Salem.
Discussion by Dr. H. S. Gove, Linn.

Afternoon Session

- 2:00 P. M. Educational Side of Full Time Health Officer's Work,
Dr. C. P. Fryer, Maryville.
Discussion by Dr. J. W. Boger, Sedalia.
2:30 P. M. Prevention of Diphtheria, Dr. J. T. Hornback, Nevada.
Discussion by Dr. L. B. Clinton, Carthage.
3:00 P. M. Sanitation Service, State Board of Health, George W.
Putnam, B.S., State Engineer.
3:30 P. M. Duties of Deputy State Health Commissioners and
Law Enforcement in Rural and Small Counties,
Dr. T. W. Cotton, Van Buren.
Discussion by Dr. F. A. Johansen, Kahoka.

Round Table

- 4:00 to 6:00 P. M. Members State Board of Health, Division Directors
and Health Officers.

Evening Session

- 8:00 P. M. Same as State Medical Society Program.

**STATE HEALTH OFFICERS CONFERENCE
WEDNESDAY, MAY 7—SHRINE MOSQUE**

- 9:00 to 10:30 A. M. Trachoma Clinic, Dr. John McMullen, Surgeon, U. S.
Public Health Service.
10:30 A. M. Election of Officers.
Dr. John McMullen, Lantern Slide Lecture.
Dr. W. S. Rankin, State Health Commissioner, North
Carolina.

**SIXTEENTH ANNUAL MEETING OF MISSOURI
SOCIETY OF MEDICAL SECRETARIES**

SPRINGFIELD, WEDNESDAY, MAY 7, 1924—12:15 P. M.

The Secretaries will meet in The Ordinary Colonial Hotel on May 7,
promptly at 12:15 and will close promptly at 2:15. Promptly at 12:15
luncheon will be served.

DR. JAS. I. TYREE, President.

DR. J. T. HORNBACK, Secretary.

PROGRAM

Address of Welcome.....Dr. James I. Tyree
Doctors in Politics.....Dr. G. Wilse Robinson
County Co-operative Meetings.....Dr. M. P. Overholser
Election of Officers

COMMERCIAL EXHIBITORS

EAST CORRIDOR, SHRINE MOSQUE

A. S. Aloe Company, Surgical Supplies.....St. Louis, Mo.
Cameron's Surgical Supply Company.....Chicago, Ill.
DeVilbiss Mfg. Company, Toilet and Medicinal Atomizers.....Toledo, Ohio
Dick X-Ray Co., X-Ray and Physiotherapy Equipment.....St. Louis, Mo.
Erschel Davis Company, Surgical Supplies.....Kansas City, Mo.
O. H. Gerry Company, Optical Supplies.....Kansas City, Mo.
Hettinger Bros. Mfg. Co., Surgical Supplies.....Kansas City, Mo.
Horlick's Malted Milk Co., Malted Milk.....Racine, Wis.
Mead-Johnson & Co., Infant Diet Materials.....Evansville, Ind.
Medical Protective Co., Malpractice Insurance.....Fort Wayne, Ind.
C. F. Mills, X-Ray and Physiotherapy Equipment.....Kansas City, Mo.
C. V. Mosby Co., Medical Publishers.....St. Louis, Mo.
Radium Chemical Co., Radium and Radium Preparations.....New York, N. Y.
W. A. Rosenthal X-Ray Co., X-Ray and Physiotherapy Equipment.....
.....Kansas City, Mo.
Sanborn Company, Blood Pressure and Other Apparatus.....Boston, Mass.
E. R. Squibb & Sons Mfg. Co., Chemical, Pharmaceutical and Bio-
logical Products.....New York, N. Y.
Victor X-Ray Corp., X-Ray and Physiotherapy Equipment.....Kansas City, Mo.

BOOK REVIEWS

HERNIA: Its Anatomy, Etiology, Symptoms, Diagnosis, Differential Diagnosis, Prognosis, and Operative Treatment. By Leigh F. Watson. St. Louis: C. V. Mosby Company. 1924. Illustrated by W. C. Shepard. 660 pp.

In this book you can find what you are looking for. It will therefore appeal to the practitioner for a ready reference and guide. The story of hernia is beautifully and attractively unfolded and in a most interesting way the evolution of opinion as to etiology and treatment is pictured. The illustrations are conveniently placed and their graphic clearness fit well with the text. Definitions, authority for procedures and historical points are chronologically presented. The book is not burdened with detail, yet all details are made available through the admirable arrangement in alphabetical order of the bibliography placed at the end of each chapter. A splendid index of forty-five pages in a volume totaling 660 pages is but one of the many features indicating a most thorough presentation of the subject of hernia. The type is bold and outstanding. The publisher is to be congratulated upon having presented in dignified form such a very valuable contribution to the literature of hernia. It is both a contribution to and a synopsis of the history and literature of the subject. For a student of the subject the book with its references furnishes a complete storehouse of information on hernia, its varieties, etiology, complications and treatment. The author's criticisms or comments at all times are safe, sane and logical. Such a book should be a great satisfaction to him for it indicates sincerity in his labor, investigations and study. His admirable presentation constitutes a real gem, all the more fascinating because so modestly put and powerfully conceived. It is a necessity in any library.

J. C. M.

COLLECTED PAPERS FROM THE WASHINGTON UNIVERSITY SCHOOL OF MEDICINE. Volume 1, 1921, with 347 illustrations. St. Louis: C. V. Mosby Company. 1923. 1079 p. Price, \$12.00.

Volume one of the collected papers of Washington University Medical School presents a versatile group of medical presentations predominantly clinical in character. That the standpoint of general practical interest to clinicians has been considered, as well as that of new thought in scientific development, is quite evident from a cursory glance through its table of contents.

Dr. George Dock in his characteristic manner presents a philosophic survey of the social aspect of present day medicine in the opening paper entitled, "The Social Trend in Medicine."

Dr. Elsworth S. Smith gives a very illuminating discussion on chronic mediastinopericarditis.

Dr. G. C. Robinson and Dr. George Herrmann show the importance of working out the electrocardiographic findings in some of the tachycardias.

Dr. Drew Luten brings out the importance of viewing heart disease from the standpoint of altered functional physiology rather than from the too commonly over-emphasized anatomical lesion. The interpretation of signs and symptoms in terms of pathological anatomy and physiology forms the keynote of his very practical paper.

Dr. Martin Engman's paper proves the infectivity of an inactive and apparently latent syphilitic stage for many years by inoculating rabbits from inguinal glands in three cases and semen in two cases. This shows how syphilitic foci can be reactivated and keep reinfecting the system with spirochetes.

Dr. Vilray Blair describes some of the feats of present day plastic surgery of the face.

Interesting papers on the Treatment of Empyema, by Graham; Bone Tuberculosis, by Allison; Backache, by Archer O'Reilly; Genito-Urinary Surgery, by Caulk, follow.

Dr. Crossen discusses the comparative value and indications of radium, X-ray and surgery in pelvic carcinomas. Prevention of complication in pregnancy by Dr. Roysten is quite a valuable contribution. Tuberculous infection by way of the intestinal tract by Opie is an extremely valuable contribution in which he emphasizes the fact that occurrence of a lung lesion tends to prevent intestinal tract infections, and vice versa. He also shows that the first tuberculous infection does not prevent a second infection but modifies its course so that it tends to become chronic and exhibits little tendency to become disseminated.

O. P. J. F.

PRACTICAL LOCAL ANESTHESIA AND ITS SURGICAL TECHNIC. By Robert Emmett Farr, M.D., F.A.C.S. Minneapolis, Minn. Illustrated with 219 engravings and 16 plates. Philadelphia and New York: Lea & Febiger. 1923. 529 pages.

It is a privilege and an inspiration to know Robert Emmett Farr. He radiates unique and interesting ideas, a thing which impressed itself on all who met him at the Missouri Baptist Sanitarium when he visited out clinic for the purpose of demonstrating the pneumatic injector which he employs instead of syringes in all his local anæsthesia work. One must know the author in order fully to appreciate the many unusual features of his book on Practical Local Anesthesia and Its Surgical Technic.

Not even the celtic sense of humor could impel any other author to dedicate a serious monograph. "To that unfortunate individual, the patient, who fate has decreed must undergo surgical treatment, this volume is sincerely dedicated."

A demonstration of his apparatus and methods convinces the most skeptical, without loss of time, that Farr really accomplished what he has claimed to do in his many articles dealing with this subject in by-gone years. His technic and familiarity with regional anatomy place him in a very small group of those who are rather the masters of local anæsthesia, than merely the users. As might be expected, he handles tissues with the utmost respect and makes less demands upon the patients' powers of endurance than is expected of the operator, who is accustomed to general anæsthetics only.

The book is very like its versatile author. He does not violate any of the fundamental and time tried principles laid down by Braun, Reclus and other pioneers in this field. But so vivid is his power of imagination that the reader feels, after perusing many of his chapters, that he never dreamed one could include so much within the field of local anæsthesia. He would expect a man of Farr's unique experience and self-training to indulge in the common fault of working within the limits of his anæsthesia, forgetting meanwhile, that the operation itself is the thing, and every adjunct merely a means to an end. Not so Farr. He quite frankly admits that many of the procedures described, such as the radical breast operation, for example, will never become routine in the beginner's hands, but are bound to be reserved for the man possessing special knowledge and experience of this subject. One of the high points of this astonishing book seems to be the reviewer to appear in a description of infiltrating the entrance to the vaginal orifice of a virgin or other particularly susceptible female for the purpose of robbing this experience of its most disagreeable feature. The human interest side of the work appears on

many pages, but it seems to me particularly in his reference to his psycho-anæsthetist that his interesting slant at psychology is apparent in the somewhat dramatic tale of "Bribing" a child with five dollars as a means of making a transverse block suffice for setting an arm. Incidentally, one who peruses the volume will acquire a great number of most ingenious surgical tricks, all of which are introduced by way of facilitating the particular variety of local anæsthesia employed in each instance.

I must differ with Farr in his regional and local goiter anæsthesia. It is quite needlessly complicated and extensive, revealing at a glance that his chief interest is the anæsthesia rather than the surgery of this region. He states that he has removed 90 per cent of gall bladders with regional local anæsthetic, unless of course, a high spinal be risked. It is quite plain from a perusal of his published case records that Farr has invaded every sacred precinct of the head, body and extremities under local anæsthesia. His book tells explicitly how it is done, as well as very much more that is valuable to an operator, especially to one who values an exceedingly interesting, not to say, unique style of expression.

W. B.

LOCAL ANESTHESIA METHODS AND RESULTS IN ABDOMINAL SURGERY. By Prof. Dr. Hans Finsterer, Surgeon-in-Chief, Vienna Hospital of the Brothers of Charity. Authorized English version by Joseph P. F. Burke, M.D., Sc.D., LL.D., Attending Surgeon, Buffalo Hospital of the Sisters of Charity. Cloth. Price, \$4. Pp. 349, with 42 illustrations. New York: Rebman Company, 1923.

This book is really a treatise on operative surgery as done under local anesthesia. Not only is the technic of local anesthesia given, but the technic of the operative procedures as well. This is necessary in those operations in which the anesthesia must be supplemented by new injections as the operation proceeds. The technic is orthodox representing, in general, methods which have become standard with all surgeons. A large part of the book is made up of clinical discussions, interesting and valuable but having no relation either to local anesthesia or the technic of surgical operations.

The book still has the tone of propaganda. The time is past when a plea need be made for the use of local anesthesia and this day is too late to surprise the reader by performing operations with the aid of local anesthesia. All this knowledge has become common property and henceforth those writing on local anesthesia may content themselves by the simple statement of fact.

The translation is so nearly literal that it is often obscure and is nearly constantly a jar and the frequent interspersing of italics is decidedly irritating and tiresome to the eye.

Those interested in local anesthesia will need to read it, but the general reader may well confine his energies to Allen and Farr, both books made for and by Americans.

A. E. H.

THE TREATMENT OF DIABETES MELLITUS. With observations Based Upon Three Thousand Cases. By Elliott P. Joslin, M.D., M. A., Clinical Professor of Medicine, Harvard Medical School. Third edition. Cloth. Price, \$8. Pp. 784, with 26 illustrations. Philadelphia: Lea & Febiger, 1923.

At the outset, your reviewer would state that in his opinion this book should be read, studied and kept for reference by every man who is trying to treat diabetes.

His review of the history and of the use of insulin is extremely important, showing as it does that insulin is not a cure for the disease and must be used with

care if it is going to do real good. It would appear that unless the patient is taught to keep the urine sugar free and to control his diet properly, he cannot be trusted with the use of insulin by himself.

It is important that the definition of diabetes should be more thoroughly defined than it has been. Joslin says, "definitions of diabetes are unsatisfactory, but it is safe to say that diabetes is a disease in which the secretion of the islands of Langerhans is deficient and as a result, the normal utilization of carbohydrates is impaired and glucose is excreted in the urine." Joslin says further, "My rule in the treatment of diabetes is to consider any patient who has sugar in the urine, demonstrable by any of the common tests, to have diabetes mellitus, and to treat him as such until the contrary is proved." This brings up the question whether the cases of deficient carbohydrate tolerance, as shown by the blood sugar tolerance test are cases of incipient diabetes, or whether they may be spoken of as simple deficiency, or exhaustion conditions. Only by the accumulation of more data can we reach satisfactory conclusions in this problem.

Joslin's book will be of value also because of the extensive lists of foods, with analyses of their caloric values to be found in the latter pages of his book.

If Joslin's experience, which is so delightfully recorded in this text-book, is to be accepted, it shows that the treatment of diabetes must begin by educating the patient to take care of his foods and his method of living. Consequently, short courses of treatment without this thorough supervision and education are bound to be more or less unsuccessful. The book teaches, therefore, that hospital supervision is of value only when it is complete and under conditions where all the studies for any given case can be really made. Otherwise, the patients might be just as well treated by their family physician and instructed in methods of living. While insulin has revolutionized the teaching as to the real nature of diabetes and its method of treatment, still for a while at least it will simply be an adjuvant in the treatment of the disease.

G. H. H.

A MANUAL OF PROCTOLOGY. By T. Chittenden Hill, Ph.B., M.D., F.R.C.S., Instructor in Proctology, Harvard Graduate Medical School of Medicine; Surgeon to Rectal Department, Boston Dispensary; Ex-President American Proctology Society. Illustrated. Philadelphia and New York: Lea & Febiger. 1923. 279 pp. Price, \$3.25.

Unquestionably the part of the human anatomy most neglected by both laity and physicians is the ano-rectal region. Nothing short of exquisite pain will induce a patient to consult a physician with reference to a rectal disorder, and a rectal examination is tolerated only with great reluctance and embarrassment. Probably out of consideration for the feelings of patients in this particular instance, even careful physicians do not habitually include the rectum in their routine examinations, and frequently go so far to prescribe for some disorder in that region without so much as a casual inspection. The indifference with which medical teachers pass over this branch of disease is also, in a measure, responsible for the subsequent indifference upon the part of the students they graduate. Men leave medical college with little knowledge of rectal diseases other than that of "piles," an affliction which, they are left to understand, either takes care of itself or else responds kindly to any one of the more or less indifferent methods of operation.

The internists and the general surgeons are busy men and look askance at the thousand-page technical books on proctology, therefore, I feel that we should be particularly grateful for this "Manual" of Dr.

Hill's, a book of 268 pages, that can be read within a few hours, containing most of the practical knowledge essential to one not specializing in that field. The author does not present it as an exhaustive treatise on proctology, but rather as an epitome of his personal experience in that line, giving only those special methods of diagnosis and treatment which have proven most efficacious in his own hands. Such a book in the hands of senior medical students, properly supplemented by lectures and clinics, would do more to eliminate advertising rectal quacks than all the legislation that organized medicine could possibly bring to bear; we would see fewer rectal abscesses treated by the ineffectual puncture wound drainage; there would be less time wasted in the fruitless treatment of fistulae with bismuth, violet-ray, and the like; fewer persistent diarrheas would be treated for months with astringents before a digital examination had disclosed a carcinoma of the rectum.

To the student, the internist and the general surgeon, those for whom the book was primarily intended, I commend it most heartily. Unquestionably, every proctologist will profit from such a candid expression of opinion from so capable a source.

R. D. A.

DISEASES OF THE RECTUM, ANUS AND PELVIC COLON.

By J. Rawson Pennington, M.D., F.A.C.S., Proctologist to the Columbus Hospital, Veterans' Hospital No. 30 and the United States Marine Hospital. Chairman of the Scientific Assembly, Section of Gastro-Enterology and Proctology, American Medical Association. 679 illustrations, including 2 plates. Cloth \$12.00. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia. 1923.

In this monograph Dr. Pennington has added much to the literature on the rectum and the pelvic colon, and given us the results of his original work and reports on his instruments and appliances invented for this specialty.

Following an interesting historical introduction the author divides his subject into three parts: I. General Principles of Proctology. II. Diseases and Injuries of the Rectum and Anus. III. Diseases and Injuries of the Pelvic Colon.

Each part is complete in itself and the author is to be congratulated upon the tremendous amount of work shown in this monograph. It can be recommended to the proctologist and the student.

The publishers are also to be congratulated upon the form and workmanship of the monograph.

W. H. C.

WAR BLINDNESS AT ST. DUNSTAN'S. By Sir Arnold Lawson, K. B. E., M. D., F. R. C. S., L. R. C. P., Senior Ophthalmic Surgeon and Lecturer on Ophthalmic Surgery, Middlesex Hospital, etc. Henry Frowde and Hodder & Stoughton, London. Oxford University Press, New York. Price, \$2.50. \$2.50.

St. Dunstan's, an institution for the blind, was built up by Sir Arthur Pearson, a publisher who at the early age of 54, on account of approaching blindness, retired from business in 1910. In 1914, in the time of war, his patriotism was stimulated and manifested itself in solicitude for those who, like himself, were blind or partially blind. He exerted his energies to the building up of St. Dunstan's as a help for the blind. The cases were under the care of Major Arthur Ormond and Sir Arnold Lawson.

This institution has done great work for those who came under their care and the book deals with such work and gives special notice of unusual and interesting cases. The cases are reported briefly by Sir Arnold Lawson and as would be expected from a man of his standing, nothing is said but which would

carry some useful instruction, not only to the general practitioner and to the specialist. His task was a difficult one, undertaken as it was in pursuance of a promise made to the late Sir Arthur Pearson, to write up the work of the institution. In the main it was to report the work of the institution done during and following the war but this work embraced many cases of scientific value which should be reported and known to the profession. His reports of these, therefore, touched the high points in them and although his book may be looked upon as a hospital report it would be much to be regretted if it were passed over as such for in the first place it is historical and in the second place it is from a distinguished man in the profession, who from his unique experience in war blindness has given us the results of this mature judgment and experience. Not only this, but certain cases may furnish good material for further research.

The whole book appeals to one as a conversation, and much more can be gained from conversations with the proper persons than could perhaps be gained from any book which they may have written. It is recommended to any ophthalmologist as an interesting and instructive work which will well repay him in reading. It does not pretend to be an exhaustive scientific treatise; but it is refreshing to read an unbookish book by such a distinguished surgeon. It should be in the library of every ophthalmic surgeon.

E. J. C.

TONSILLECTOMY by Means of the Alveolar Eminence of the Mandible and a Guillotine. With a Review of the Collateral Issues. With 90 illustrations. By Greenfield Sluder, M.D., Fellow of the American College of Surgeons; Clinical Professor and Director of the Department of Rhinology, Laryngology and Otology, Washington University School of Medicine, St. Louis Mo. St. Louis: C. V. Mosby Company. 1921. Price, \$5.00.

It is now thirteen years since Dr. Sluder presented his original article on tonsillectomy by means of the guillotine and the use of the alveolar eminence of the mandible.

His technique was perhaps the most epochal variation in the science of otolaryngological surgery that has been introduced within the past twenty years. At present I dare say his technique or some slight modification of it is being used in all civilized countries. A great many variations in technique and modifications of the instrument have been described and devised since his original technique and instrument were described, but they all practically embody the principles laid down in his original publications. Unquestionably, the Sluder technique is harder to master than the older dissection methods. It takes more time to acquire it, but when acquired it is the best technique we have so far. The critics of his technique are almost universally men who have not taken the time to master it.

For his new book, Dr. Sluder has obtained some very fine drawings which demonstrate clearly the reason for each step of the operation. A very interesting and instructive chapter has been included on the physiology and general pathology of the tonsil by Dr. Arthur W. Proetz working in conjunction with the Department of Pathology at Washington University. This article is a valuable addition to tonsil pathology. Dr. Sluder has also covered the embryology, anatomy, indications for operation, and the operation itself has been gone into in detail. Unquestionably, there is no longer any doubt about the fact that nitrous oxide anesthesia is the best anesthetic in properly chosen cases for the surgeon who uses the Sluder technique. For medical men generally, Dr. Sluder's book is well worth reading but it is of especially great value to the laryngologist.

S. S. B.

THE HEART IN MODERN PRACTICE; Diagnosis and Treatment. By William Duncan Reid, A.B., M.D., Chief of Heart Clinic at the Boston Dispensary. Philadelphia and London: J. B. Lippincott Company 1923. Illustrated. 352 pp. Price \$5.00.

The author seems to have been actuated by the spirit of Arthur Hugh Clough's lines:

"Old things need not be therefore true,
O brother men, nor yet the new."

He has tried to incorporate the best of the new knowledge with that of the old which has stood the test of time. The field that he has chosen is a difficult one. Many brilliant contributions have been made on this subject, especially those of the genial Britons, Mackenzie and Lewis. His consideration of cardiovascular syphilis in one chapter instead of in a fragmentary way throughout the book is in line with modern concepts and is well done. The chapter on septic heart disease seems somewhat forced. It appears to have been done hurriedly and is not up to the standard of the rest of the book. The arrhythmias are discussed in a happy manner. Too much space is devoted to case reports which do not add materially to the value of the book. It is curious to find in a book emanating from Boston words and phrases that do not conform to good usage. Thus, on page 274, "general stature that of viscerotoposis." The author has accomplished what he set out to do, to write a brief treatise, encompassing in a single volume information that must usually be sought in many different books. L. S.

SURGICAL PATHOLOGY. By Joseph McFarland, M.D., Sc.D., Professor of Pathology in the Medical Department of the University of Pennsylvania. Cloth, 701 pages, with 435 illustrations. Price \$9.00. Philadelphia. P. Blakiston's Son & Co., 1924.

A book coming from such a distinguished pen as that of Professor McFarland causes us instinctively to take a hitch in our belts in anticipation. Nor are we disappointed.

The book is divided into three parts. The first on congenital conditions, the second on tumors and the third on special pathology.

The first part covers 200 pages and treats the subject in a most comprehensive way. It is much more than a presentation of facts of pathology of development, it is the finest sort of example in clear, consecutive presentation of straight thinking, a real exercise in the presentation of scientific facts. After reading it one has the feeling he had in his youth at two o'clock on Thanksgiving Day after an encounter with mother's exhibition of the culinary art—if anything was left out it was because of lack of room.

The second part, dealing with tumors, is less satisfactory from the standpoint of the medical student. It appeals more to those who are well grounded in the subject. The inevitable complicated classifications appear, which are wholly incomprehensible to the student and the trained pathologist casts aside with a profound sense of weariness. The author does redeem himself on presenting Mallory's classification. It would be interesting to see one of the real solid oncological classifications, say, name a family of ten children. It would no doubt sound like the family tree of the children of Israel. The classifications once survived, the student finds about 200 pages of excellently presented tumor facts which is about the right amount for a student.

In the third part much of interest in the topographic presentation of tumors is found. This part is very satisfactory and is a good preparation for the clinical study of tumors. Here and there in this section one finds brief presentations of other subjects in surgical pathology, such as diseases of the bone,

granulomas, etc. The presentation features the unusual, which the student is not likely to meet "on the hoof."

The book ends with a bibliography the value of which is marred by the fact that the citation only is given. It would have been more satisfactory if the titles also were given. It is always a stimulus to know what one is looking for.

The large number of borrowed cuts comes as a distinct disappointment. It always comes as a distinct jar to meet the old scenes of our childhood when we anticipate fresh landscapes. It is like meeting "the old swimming hole" in the city park of Jerusalem, very interesting but one would feel that he had paid a lot of traveling expenses to see what is already stored indelibly in his memory. Authors should feel as much obliged to present new pictures as to present new words.

Taking it all in all the book is a notable contribution to our literature. It is well worth a careful study by all students of surgery whatever their stage of development. It is not bedside literature but requires serious study with the feet under the table. Besides bringing much information it presents a most excellent discipline in right thinking. A. E. H.

GYNECOLOGY. By William P. Graves, A.B., M.D., F.A.C.S., Professor of Gynecology at Harvard Medical School Third edition. Cloth. Price, \$9 net. pp. 936, with 535 illustrations. Philadelphia: W. B. Saunders Company, 1923.

The author as in previous editions has divided the subject matter into three great parts. The first part principally discusses the relationship of gynecology to the general organism. Part two treats with the diseases of the pelvic organs. Part three describes the technique of gynecological operations.

In the last few years much has been written concerning the organs of internal secretions. Much of this has been so confusing and theoretical that it has been difficult to find something useful. The author has dealt with this subject in a clear and concise manner. It is a treat to read something concerning the endocrines which can be understood and which can be put into use. For the practitioner this is a valuable part of the work.

Part two has been largely written for the medical student. Part three is of especial importance to the gynecological surgeon. So many different methods have been described for performing pelvic operations that no one book could contain all of them. The author has described only those operations which have proved to be of real value. This part has been profusely illustrated, but to make clear the different steps in the operation the writer has not relied too much on illustrations. The descriptions are clear.

It is surprising to find the great number of books which are not satisfactory when one is searching for some particular information. This is an excellent text book. The physician who needs help in solving problems relating to the pelvic organs can be assured that he will find definite and accurate information in Graves Gynecology. H. S. V.

HEMORRHOIDS. Their Etiology, Prophylaxis and Treatment by Means of Injections. By Arthur S. Morley, F. R. C. S. Eng. London. Henry Frowde and Hodder & Stoughton, the Lancet Building, 1 Bedford St., Strand, London. W. C. 2. Oxford University Press, American Branch, 35 West 32nd St., New York City. Price, \$2.00.

The treatment of hemorrhoids by injections has been used so far almost exclusively by quacks and irregular practitioners but now the regular profession seems to take up this long neglected treatment with good results. Last year Professor Boas, of Berlin, published a treatise extolling injections of quinine

and urea in hospital cases and now comes this little book of 114 pages and half a dozen excellent illustrations from conservative England. The author has treated over 1,000 cases, mostly in the out-patient department of St. Mark's Hospital, with injections of a solution of carbolic acid with splendid results. The book contains short chapters on the etiology and prophylaxis of hemorrhoids; then the author explains in detail his method, his results, the contraindications and concludes with a number of instructive case histories.

The book can heartily be recommended to the general practitioner who wants to do work on hemorrhoids. E. S.

FEEDING, DIET AND THE GENERAL CARE OF CHILDREN:

A BOOK FOR MOTHERS AND TRAINED NURSES. By Albert J. Bell, A.B., M.D., Assistant Professor of Pediatrics in the Medical Department of the University of Cincinnati, etc. Philadelphia, F. A. Davis Company. 1923. Illustrated. 276 pp. Price, \$2.00.

A valuable little book containing helpful directions and good teaching for nurses as well as mothers. We do not believe that the publication of formulas for babies of various ages, to be selected by mothers or by nurses is in any way desirable, although in these as in various parts of the text dealing with infant feeding, there appears a degree of conservatism seldom encountered now in pediatric literature.

Perhaps one may be pardoned for expressing surprise over some very unexpected suggestions which occur in this book. The use of a steel probe by mothers for the discovery of dental cavities or of a "detecting solution" for ascertaining the presence of tartar on teeth by a color reaction or that all children should have their teeth X-rayed at six months are examples, as is also the recommendation that a rod be fastened between the knees of a child to prevent masturbation or thigh friction. Such a device must be very uncomfortable to wear at any time and especially when one is attempting to sleep. However, such items are very largely the result of the way the individual physicians may feel about them and are not mentioned in criticism.

A. B.

NOUVEAU TRAITE DE MEDECINE. Fascicule XI. Pathologie de l'Appareil respiratoire (Nézi-Larynx-Trachée-Bronches-Poumons). Cloth, 636 pages. Masson et Cie, Paris. 1923. Prix 45 fr. net.

This is the eleventh volume of the new treatise on medicine published under the direction of Professors G. H. Roger, Fernand Vidal, P. J. Teissier.

The pathology of the respiratory tract is treated in two volumes of this series. The second volume of this, which is called Vol. 12, has already appeared and was devoted to tuberculosis and pseudo-tuberculosis, the pathology of the pleura and mediastinum. The volume which is appearing now takes up the pathology of the nose, the larynx, the trachea, the bronchi and the lungs.

Bezaneon and de Jong write the chapters on the symptomatology of the respiratory tract, the affections of the trachea and bronchi; the pathology of the nose and larynx is written by Bourgeois. Bronchopneumonia is discussed by Hntinel and Paiseau; pulmonary congestions, edema and the rest of such things are written by Harvier; pulmonary cancers and cysts by Dumas.

The authors take an old definition of asthma which is, "Asthma is a disease characterized by spasmodic crises of dyspnea, most often accompanied by vaso-secretory troubles of the mucosa of the respiratory tract," and make it read, "Asthma is characterized by crises of expiratory dyspnea with eosinophilia of the blood and of the sputum, crises occurring in sub-

jects having asthmatic heredity or a neuropathic temperament." They use Parrott's description of a crisis, a description which was written in 1857. The authors accept the notions of Walker and the other Americans that susceptibility to proteins may cause asthma. They also accept the general idea of colloid-oclastic shock. They say that the two ideas amount to the same thing, that their effect is on the vagus bulb, or upon the sympathetic vagus, and that the localization of the trouble in the lungs is due to some lesions in the respiratory tract which may be extremely small.

So also in the other articles the historical perspective is kept in mind. This makes the descriptions of disease readable and interesting—and a pleasant complement to our more concise and practical treatises emanating from American sources. G. H. H.

LES FERMENTS DES LEUCOCYTES. En Physiologie. Pathologie et Thérapeutique Générales. By Noël Fiessinger. Préface de M. Le Professeur Chauffard. Masson et Cie, Editeurs. Libraires de L'Académie de Médecine 120, Boulevard Saint-Germain, Paris-VIe. 1923. Price, 16 francs.

Chauffard's introduction describes the study of the ferments of the leucocytes as part of the new work on endocrinology and he calls the leucocytes a monocular endocrine gland.

According to the author the leucocyte elaborates and ferments more various and more numerous than those of the pancreas. Thus one can find in the leucocyte successively oxydases, peroxidases, catalases, reductases, proteases, peptases, etc. An interesting example of the ferment action of the leucocyte is found in pneumonia where the author asserts that the disappearance of the fibrinous secretions after the stage of red hepatization is due to the digestion of these things by the leucocytes.

It is a fascinating study and worth the time and effort to anyone who can read the French and can follow the chemical studies outlined. G. H. H.

THE NORMAL CHILD, ITS CARE AND FEEDING. By Alan Brown, M.B., Physician-in-Chief to the Hospital for Sick Children Toronto, Canada; Association Professor of Medicine in Charge of Pediatrics, University of Toronto. 250 pages. The Century Company, New York City. Price \$1.25.

This book is another addition to the literature intended for mothers to instruct them in the care of children. The volume contains about 250 pages with 14 illustrations. The clothing, hygiene, general care, feeding, habits, discipline and a short chapter on common diseases of childhood are briefly considered in a manner within the comprehension of intelligent mothers. The book is dedicated to the Canadian mothers. No disease holds such terrors for parents as does diphtheria. Why not mention the advisability of immunizing all young children against such a preventable disease? F. C. N.

HOW WE RESIST DISEASE. Lippincott's Nursing Manuals. By Jean Broadhurst, Ph.D. Assistant Professor of Biology, Teachers College, Columbia University. 138 illustrations and 4 color plates. Philadelphia and London: J. B. Lippincott Company. 1923.

This book is one of Lippincott's Nursing Manuals. As stated in the preface, the book, "designed as a brief introduction to the exceedingly technical and apparently limitless field of immunity, has been prepared with special reference to nurses and general college students." Technical language has been avoided as much as possible and the author has attempted in every way to make the various divisions of the subject intelligible to the lay reader. The author's objects have been admirably accomplished. G. I.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

Volume XXI

ST. LOUIS, MO., JUNE, 1924.

NUMBER 6

E. J. GOODWIN, M. D., EDITOR
901 Missouri Theatre Building, St. Louis, Mo.

PUBLICATION { W. H. BREUER, M. D., Chairman
COMMITTEE { C. B. FRANCISCO, M. D.
M. A. BLISS, M. D.

ORIGINAL ARTICLES

CELLULAR REACTIONS FOLLOWING X-RAY AND RADIUM THERAPY*

H. R. WAHL, M.D.

KANSAS CITY, KANSAS.

The history of medicine occasionally shows that the most effective therapy owes its origin to empirical experimentation with the unknown factors, disease and the therapeutic agent, brought into intimate relationship. The resulting cure is often explained with the wildest theories each leading to further application of the same therapeutic agent. It is only when these unknown factors become known that the limitations of the successful therapy are recognized and accepted. This was strikingly illustrated in the use of quinine in malaria fifty years ago. There was no doubt of its effect in true malarial fever, yet it was advocated for most of the obscure ills of mankind with generally "good" results. It was only when the malarial parasites were discovered that the specific action of quinine was firmly established and its therapeutic use justified for this particular disease and questioned in other diseases. The same cycle of empiricism, apparently specific therapeutic action, enthusiastic optimism and unreasonable skepticism, applies to X-ray and radium therapy today, particularly in reference to tumors. It has a specific action on some tumors beyond a doubt, but, just as occurred with quinine years ago, the X-ray is being advocated for all types of tumors, skin diseases, pneumonia, whooping cough, etc. There is no doubt of its specific action on certain tumors, but its unexplainable failure in other tumors reveals our ignorance of the fundamental nature of both disease and therapeutic agent.

While we are still in ignorance of the fundamental nature of both tumors and the X-ray and its action on human tissues, there are some observations that are well established and should be of aid in affording a proper perspective in its therapeutic application. The physi-

cal nature of the X-ray is too complicated to discuss in this paper. There is little doubt but that its action on the human body is mainly one on cells. Whether this action is a direct or indirect one is open to dispute though the consensus of opinion is that it is a direct one. It is worth noting, however, that there is some evidence to show that it enhances the immunizing processes in tissues thereby leading to more rapid destruction of foreign cells, such as tumor cells.

The exact mode of action of the X-rays on cells is not definitely known. It seems to act mainly on the nucleus, particularly on the chromatin material and especially during division of the cell. Its action is not specific. It is said that a cell is eight times as sensitive to the X-ray during mitosis as at any other time. Evidently it acts largely by inhibiting growth processes, the cells eventually dying from old-age or exhaustion. Furthermore, it is assumed but not absolutely proven that all undifferentiated cells and young cells are more susceptible and more easily killed than those with greater differentiation or age. The cytoplasm is also affected. A peculiar feature of the X-ray effect is the latent period, a certain time elapsing from the exposure to the appearance of changes in the exposed cells. This varies with different types of cells, being short in the case of leucocytes and longer in epithelial cells of the skin. The reason for this latent period has not been satisfactorily explained.

The degree of growth inhibition depends on the dosage of X-ray. It is held that in small doses there may be even a stimulating effect though a few well known roentgenologists deny that there is ever a stimulant action. But different cells vary a great deal so that a dose that would stimulate a resistant tissue would completely inhibit the growth of a sensitive tissue.

The basis of X-ray therapy rests upon the assumption, which is not accepted by everyone, that tumor tissue is more susceptible and more easily destroyed than normal tissues. Loeb explains the increased vulnerability of tumors to X-rays to their rapidity of growth, their generally unfavorable environment and their lack of sufficient paraplasmic substance.

*Read before Kansas City (Mo.) Academy of Medicine, January 11, 1924.

This selective action of the X-ray has recently become of greater importance since the application of high voltage X-ray therapy to deep

lymphoid cell in maintaining the bodily resistance to cancer and, accordingly, feel that this leucopenic affect of the X-ray lowers the resistance to cancer. Its action is strikingly illustrated in its effect on the white count in leukemia. Its action on the spleen and bone marrow is not marked with ordinary therapeutic dosages though undoubtedly some reduction of lymphoid cells does occur. The lymphoid tissues are one of the most sensitive tissues of

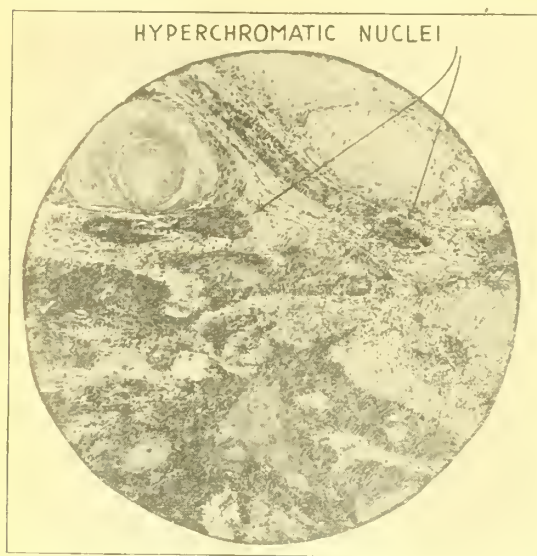


Fig. 1. Squamous cell epithelioma of upper jaw. X-ray treatment six days and one day before operation. Note the hyperchromatism of the cells and the edema in the stroma.



Fig. 2. Epithelioma of the lower lip after six weeks of radium treatment. Note the degenerated appearance of the tumor cells and the inflammatory reaction in the stroma.

seated tumors in which three tissues are involved and in line of attack, first, the tumor tissue, second, the tissue between the tumor and the surface and, third, the circulating blood. A brief summary of the effects of X-rays on different tissues follows. (Of course this assumes a constant dosage.)

The effect on the blood is mainly a reduction in the number of lymphocytes, but in routine treatment this does not appear to be serious. Some authors emphasize the importance of the

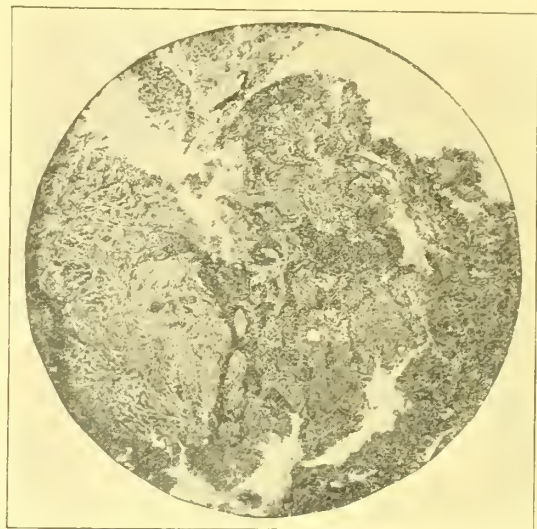


Fig. 3. Rodent ulcer of the right cheek treated with "paste" and later with radium. Shows a characteristic post radium reaction in tumors which are not very susceptible to radium.

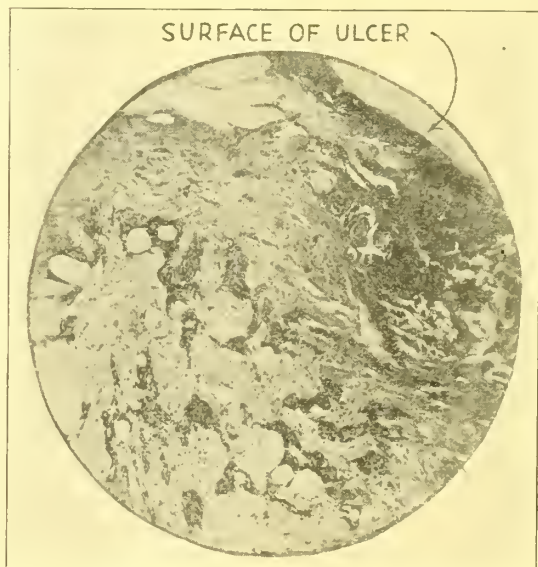


Fig. 4. Epithelioma of eyelid treated with violet ray and with radium in past four months. Shows destruction of tumor tissue, vascular obliteration and fibrosis near surface with persistence of the tumor in deeper tissues.

body. The effect of the X-ray on these organs consists in degeneration of the lymphoid cells with swelling and vacuolation of the cyto-

plasm and pycnosis, fragmentation or achromatosis of the nuclei followed by proliferation of the fibroblasts and endothelial cells with final fibrosis and scarring of the node. Various lesions of the lymph nodes, such as lymphosarcoma, leukemias and Hodgkin's disease, usually rapidly melt away before appropriate X-ray dosages. A scarred node usually results.

The epidermis is more resistant and has a long latent period. It is well to note that some persons are individually very sensitive and have received embarrassing delayed burns and ulcers weeks after, but a moderate dose. Striated muscle tissue shows degeneration and even necrosis when in direct line of intensive treatment. The brain and nerve tissues are more resistant yet functional disturbances occur with prolonged treatment. The anatomical changes noted have only been edema. The usual therapeutic doses probably have no effect. The liver, pancreas, lungs, heart, and kidneys appear to resist considerable doses of X-rays. A radium or X-ray nephritis has been described, but its existence is denied by Whipple and others. Secreting glands such as the salivary glands show no reaction with moderate doses, but with large therapeutic doses there is considerable degeneration with subsequent lymphoid infiltration and fibrosis.

The germinal epithelium has been known to be especially susceptible to the X-ray, repeated cases of sterility following X-ray therapy for uterine cancer, especially in the early days when it was not as well controlled.

One of the most susceptible tissues of the body is the epithelium of the small intestine. Whipple and his co-workers have shown this to be even less resistant than the lymphoid tissue of the intestinal tract. It was seriously damaged with moderate dosages of deep X-ray therapy. They noted the more or less desquamation of the surface epithelium and the degenerative changes in the crypts of the glands. They maintain that such a lesion causes severe intestinal toxemia similar to the proteose intoxication or to that which occurs in high intestinal obstruction and they are emphatic in their belief that the radium and X-ray toxemia frequently reported with large doses is really due to injury to the intestinal epithelium. This we have observed in one of our cases. They also emphasize that here may occur, later, sharply defined, punched out ulcers that are very difficult to heal. They do not consider this a contra-indication to the use of deep therapy in lower abdominal lesions, but they feel that this is a potential danger to be avoided if possible and every known precaution used.

The action on the ductless glands is not well established. Holfelder and Peiper have recently shown that the adrenal is twice as sensitive

as the intestinal epithelium, that the adrenals show marked degenerative changes, especially in the cortex, and warn of the danger of affecting the adrenal. They explain the roentgen malaise following gastric irradiation to transitory injury of the adrenal. Edema and hemorrhage have also been described but not established in all cases. The X-ray is said to reduce the thyroid tumors and to be of value in goiter, but this is subject to question except in isolated cases. It causes atrophy of the thymus gland. Hoffman shows that 25 per cent of the skin erythema dose inhibits the growth of bone tissue and that a limb exposed to the X-ray shows retarded growth as compared to the untreated limb. He noted a retardation of the process of calcification. After roentgen stimulation the formation of a bony callus is at first stopped and growth of the cartilage cells is increased. Hence, stimulative doses should be applied to fractures only when union is delayed.

The effect of the X-ray upon tumors affords its greatest therapeutic application and yet the cellular changes produced by its action have not been thoroughly studied. Descriptions of cellular changes have been reported repeatedly but they are not of the thorough type that their fundamental importance deserves. This is probably the result of the exigencies of therapeutic necessity overshadowing the less practicable scientific problems involved. In cellular tumors Ewing makes the statement that radium, and the same is probably true of the X-ray, has four to seven times the affinity for tumor cells as for the normal tissue cells.

The reaction of tumor tissue to the X-ray is quite specific, no other known lesion producing the same picture. The changes produced vary greatly with the dosage, the nature of the tumor and the susceptibility of the individual. Taking the squamous cell carcinoma of the cervix of the uterus as the general type the changes after exposure to radium are as follows:

During the first week inflammatory changes with hyperemia and hemorrhages predominate. Edema is noted in the stroma on the third day. Later there is beginning exudation of lymphocytes and polynuclear leucocytes. With radium, the cancer cells become swollen on the fourth and fifth days but with the X-ray this is not so striking.

During the second week changes in the tumor cells themselves are more striking. Nuclear changes are particularly prominent. Many nuclei have become swollen, homogenous in structure and hyperchromatic. A few may show pycnosis and disintegration. The cell bodies are loosened and often fuse with other cells forming giant cells. The tumor alveoli

begin to disintegrate and the tumor tissue takes on a more diffuse appearance. There is abundant leucocytic infiltration especially of lymphocytes. Mitotic figures no longer occur.

The third week after a single treatment shows a marked reduction in the number of tumor cells, many of which are necrotic and liquified. Other cell clusters are invaded and mechanically broken up or compressed by lymphocytes and proliferating stroma. Pycnosis or breaking down of the nuclei of tumor cells occurs frequently.

After four to five weeks, pycnotic nuclear fragments and occasional agglutinated masses of chromatin may be all that is left of the tumor tissue. The stroma usually still shows considerable activity, the leucocytes are abundant and capillaries and fibroblasts proliferate leading eventually to a peculiar cellular type



Fig. 5. Epithelioma of the hand after radium treatment. An old chronic ulcer. Note the absence of tumor tissue, the dense hyaline fibrous tissue and vascular obliteration.

of granulation tissue replacing the tumor tissue. An obliterating thromboangiitis is often described, especially with too large a dose, but is not always present. It is an interesting feature that, if the dosage is exactly adjusted, the healing process occurs without scarring, and complete disappearance of the tumor occurs.

However, if the dosage is too great the vessels are destroyed. The stimulating action of proliferating fibroblasts, capillaries and endothelial cells, occurring with the correct dosage, is absent and dense hyaline scar tissue results such that neither leucocytes nor vessels can penetrate it. Thus the reaction of normal tissue, which is probably equally as curative as the direct action of radium, is absent. Without it, refractory tumor cells are free to proliferate and often do so in spite of the dense cicatricial tissue.

The reaction of tumor tissue to X-ray treatment presents a very wide range of variation, depending on the degree of dosage, the nature of the tumor and the individual. Too large a dose may be as harmful as too small a dose. Even with nicely adjusted dosages failure to eradicate a malignant tumor occurs. This seems



Fig. 6. Characteristic area of a tumor of the lip diagnosed clinically as an epithelioma, pathologically as a papilloma. Has had some X-ray treatment.

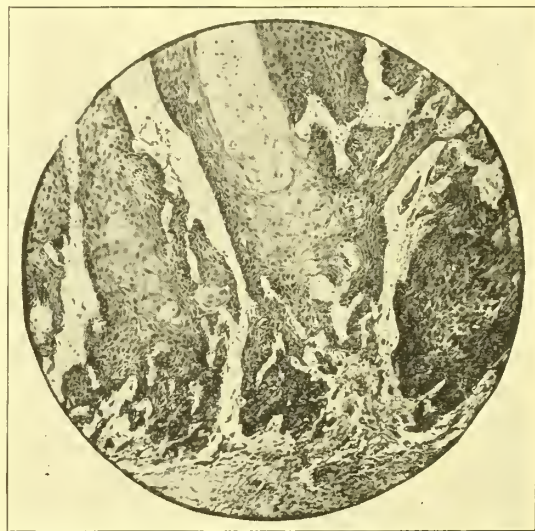


Fig. 7. Same tumor as shown in Fig. 6, after two months of combined X-ray and radium treatment. Note the malignant change.

particularly true of the malignant tumors composed of considerable differentiated tissue, such as bone tumors, squamous cell epithelioma of the tongue, adenocarcinoma of the stomach and the melanosisarcoma. The natural history of these malignant growths should always make the prognosis of any form of therapy conservative. It has been noted that two tumors of the

same histological structure react very differently to a given X-ray dosage. With the great variation of form and appearance of the cells of a malignant tumor one would expect even greater variation in resistance to the X-ray and that some cells would survive the X-ray and give rise to a new strain of cells, resistant to radiation, regardless of the amount, and leading to progressive growth of the tumor in spite of continued radiation. This is nothing but the application of a general biological phenomenon in which a chemical or physical agent acts on masses of living organisms and cells. The same process leads to the so-called salvarsan-fast spirochetæ in some cases of syphilis. Schwartz has noted a difference in the behavior of benign and malignant tumors to repeated doses of X-ray or radium, the former showing increasing susceptibility to the rays, while the latter manifest a progressive increase in resistance.

The danger of over treating a carcinoma or other malignant tumor is noted in recent reports and experimental work with mouse cancer. It may cause a constitutional toxemia that has been referred to. It may lower some of the natural defenses of the body to tumor growth which would be sufficient to overcome the few cells that may have escaped the direct action of the rays. Reports of the recurrences developing in intensively rayed areas and not in the unexposed parts of the body are of particular interest in this connection.

Nakahara's experiments on transplantation of mouse cancer are also of interest. He found that after exposing mice to the X-ray and then transplanting an easily transplantable carcinoma to the same animal the transplant underwent the same disintegration as occurred in other animals in which the transplant itself had been exposed to the X-ray after its transplantation.

This emphasizes that in X-ray therapy two cellular reactions probably occur, one a destructive one applied directly on the tumor cells and the other a stimulative one enhancing the natural body defenses which indirectly act on cells that have resisted the X-ray. To secure the maximum effect the dose must not be too small or too large. This varies with each individual case. I do not believe there is such a thing as a "fixed carcinoma dose" as some roentgenologists maintain. The determination of the correct dosage requires an almost superhuman judgment on the part of the roentgenologist. He is dealing with three biological variants and one stable factor. He is only sure of his X-ray technic. The biological variants are the individual patient, the location of the tumor and the nature of the tumor. The responsibility of the roentgenologist is greater

than that of the surgeon and his judgment has less tangible tools with which to work. He must treat each individual case by itself. How he can do this without an histologic examination of the tissue so that he knows what he is dealing with I never could understand. He must know the anatomic relations, the histologic structure and the biologic type of the growth, its duration and the possible secondary complications as well as the physical condition of the patient before he can intelligently use the X-ray and do justice to both his patient and to the X-ray. Until a more thorough knowledge of the natural history of the tumors treated is associated with X-ray treatment than there has been in the past, I do not believe we can determine just when X-ray therapy is indicated and when it is not.

I anticipate that the following slides taken from the radiated specimens will leave the impression that X-ray therapy is unsatisfactory. There are two facts worth noting before they are shown. One is that they represent typical examples of tissues sent to me for examination, largely because they were X-ray failures. The cured cases never come to my attention. In the second place (while I know nothing about the X-ray), my impression from observation and reading is that many of my cases represent injudicious dosage and should not be placed against X-ray or radium therapy, the limitations of which are at present poorly defined. They emphasize that radiological judgment is fully as complex and difficult as surgical judgment and demands an even more fundamental knowledge of physics, chemistry, biology and pathology.

University of Kansas Medical School.

GYNECOLOGICAL DISEASES OF SPECIAL INTEREST TO THE INTERNIST*

H. S. CROSSEN, M.D.

ST. LOUIS

There are certain gynecological affections which are of special interest to the internist and I shall utilize the short time available to touch briefly on three of them.

First, in regard to focal infections—that is, inflammatory foci that may be the cause of distant joint trouble. In connection with focal inflammations we hear a great deal about the tonsils, with their deep crypts which may harbor infection indefinitely, and about the nasal accessory sinuses, which frequently become occluded with resulting pus retention. Now, in the female genital tract there are two sites in which these same conditions are frequently

*Read before the American Congress of Internal Medicine, Eighth Annual Clinical Session, St. Louis, Feb. 18-23, 1924.

found. One site is the cervix. The glands of the cervix uteri are long and many-branched and have a comparatively small opening which is quickly occluded by inflammation. The bacteria penetrate into the long glands, the outlet ducts become occluded and deep foci of inflammation remain. These foci are so deeply placed that they are out of reach by applications; that is why cervicitis persists in spite of strong bactericidal applications within the cervical canal. The antiseptic never reaches the inflammatory foci, which are not near the surface but deep in the cervical wall. There the process may go on indefinitely, unless overcome by the resisting agencies of the patient's tissues or by effective treatment.

This portion of the uterus is rather insensitive. Cervical inflammation as a rule causes little or no pain and though there is some discharge the patient attaches little importance to that. Consequently, deep-seated cervicitis may be present without the patient complaining of pelvic symptoms and even without her suspecting the presence of an inflammatory focus in that locality. So in your search for inflammatory foci in a troublesome case of arthritis, do not forget the cervix uteri.

Another favorite site for the localization and persistence of pyogenic bacteria is the Fallopian tube of either side. The frequency and persistency of inflammatory foci in the Fallopian tubes are explained by the anatomical relations and structure of the tubes. The uterine portion of the tube, through which infection enters from the uterus, has a very small canal which is quickly closed by inflammation. In the outer, wider portion of the tube the mucosa is disposed in complex longitudinal folds. These projecting folds are very numerous and extensive, practically filling the lumen of the tube with their delicate prolongations. In this mass of delicate folds, inflammation soon plays havoc. The folds become agglutinated, forming closed pockets in which pus collections form. In a short time both ends of the tube are sealed and the tubal interior is disorganized. The infected tube becomes a series of pus pockets surrounded by a wall in which the lymph and blood vessels are well organized to act as highways for bacteria seeking distant parts.

In the early stage of tubal inflammation there is usually considerable peritoneal irritation, with resulting pelvic pain and soreness, and also some tendency to increased menstrual flow. These symptoms of course vary with the severity and extent of the inflammation. In many cases there are troublesome symptoms calling attention to the pelvic focus. In other cases, however, the acute disturbance subsides

in a few days and after that the patient has only occasional pelvic symptoms, sometimes only at menstruation, and not of sufficient severity to cause her to think that there is any serious pelvic trouble. An inflammatory focus in the tube may persist thus in a chronic state over a long period—so long that the slight disturbance of the acute stage is forgotten, and careful questioning may be required to recall it.

In any case of persistent trouble, probably of focal origin but for which no focus can be found elsewhere, these two sites in the pelvis, the cervix and the Fallopian tubes, should be investigated.

Next comes the cancer problem. I do not intend to inflict upon you a dissertation on the frequency of cancer of the uterus nor on the results of failing to recognize it. That story has been told often and well by many, particularly through the splendid work of the American Society for the Control of Cancer. Just a word as to the *insidiousness* of uterine cancer—how it grows silently and unsuspected. At first as you know, it is only a small hardened area on the vaginal portion of the cervix, or it may be up in the cervical canal or in the endometrium. There is no pain and no marked disturbance of any kind. After a time there may be some discharge, or perhaps a little bleeding, but this is so slight that the patient gives it no attention. In many cases the process runs along without any definite local symptom until far advanced. Then something causes bleeding, the individual goes for examination and an advanced cancer is found—too late for curative treatment.

In this connection I wish to make just two points—one concerns myself and the other concerns you. Long ago I became so impressed with the *insidiousness* of pelvic carcinoma, seeing so many advanced cases with symptoms of only a few weeks' duration, that I vowed to miss no opportunity to call attention to the subject. All that any of us can do in this direction is so little compared with what needs to be done, that every one should give serious thought as to how he individually may do his best to bring to light these unsuspected cases of malignant disease. This brings up the question as to whether we ought to advise *every* woman approaching 40 to have a pelvic examination, to determine if there is any evidence of beginning cancer. Considered simply from one standpoint it is easy to answer, yes. But the problem is not so simple as that. There are many factors that militate against telling every woman aged 40 who may consult us that she should have a pelvic examination. In the first place, there is the natural disinclination of the patient to have a pelvic examination at all and, of course, this disinclination is much

increased when there are no symptoms making the need of the examination apparent. Again, the suggestion of the possibility of cancer disturbs some patients unduly. To some individuals who never had a worry nor a thought in that direction the suggestion of the possibility of cancer brings a haunting fear that even several examinations may not eradicate. Again, the physician naturally feels a delicacy in advising something for which the patient may see no very good reason except the pecuniary benefit to the physician. And this pecuniary benefit lessens to some extent the force and effectiveness of his advice. In connection with pelvic carcinoma this applies especially of course to gynecologists—not so much to you as internists. For that reason I feel that you are in a peculiarly favorable position to secure acquiescence and prompt action on any advice you may give in this respect.

No doubt some of you feel as I felt for a long time, namely, that it was carrying the matter too far to advise every woman approaching the menopause to have a pelvic examination to eliminate cancer. But the facts of long experience—including the harrowing episodes of finding advanced cancer with only short duration of symptoms in the case of personal friends and in the wives of professional colleagues—these sad experiences have changed my views. The hard logic of time and events has convinced me of the advisability of this examination in all women approaching 40 years of age. In their early stage uterine carcinoma and ovarian carcinoma are often practically symptomless. This fact is well known, but it appeals to us usually only in a general and impersonal way. The seriousness of the situation is brought home, however, when we visualize the possibilities in the case of each woman who comes to us confidently trusting her future health to our keeping. Considered in this individual and personal way I am sure you will reach the conclusion that I have, namely, that it is our duty to advise pelvic examination to detect or eliminate early cancer in every woman aged 40 who asks us to assume responsibility concerning her health.

University Club Building.

NOTE ON THE USE OF EPINEPHRIN IN HEART BLOCK. The report of a case by H. M. Korns and C. D. Christie, Cleveland (*Journal A. M. A.*, November 4, 1922), illustrates the fact that epinephrin may increase a preexisting partial auriculoventricular block. The increase is probably a central vagus effect. The cause of the preexisting partial auriculoventricular block is not clear. Increase in auricular and ventricular rates, excitation of premature ventricular beats and production of extreme auricular arrhythmia may be brought about by the action of epinephrin on a heart which is the seat of auriculoventricular block.

SOME NEARLY FORGOTTEN PRINCIPLES IN THE MODERN RECOGNITION AND TREATMENT OF SYPHILIS AND THE SYPHILITIC*

From the Department of Nervous and Mental Diseases, St. Louis University School of Medicine.

WILLIAM WASHINGTON GRAVES, M.D.

ST. LOUIS

"Wollen wir weiter kommen so müssen wir genauer untersuchen."—Virchow.

Were Philippe Ricord (1799-1889) with us today, we would surely hear his voice again and again exclaiming: "Oh, Syphilis, when wilt thou be understood!" During the past two decades tremendous advancement in the knowledge of syphilis has been made, but it is still one of our vital problems, still misunderstood, as in the days of Ricord.⁶⁸

The possibilities of recognizing the protean manifestations of syphilis were surely never so many. the probabilities of symptomatic cures were certainly never more hopeful, and yet syphilis is today often unrecognized, often mistreated, in all probability just because it is so often misunderstood.

We now have light, abundant light on the problems of syphilis, but we do not seem to use it as we might. For our shortcomings there appear to be a number of reasons, but mainly these: (1) We are using the "bright lights" from the laboratory—laboratory aids to diagnosis—almost to the exclusion of the long-recognized and useful clinical symptoms, signs and tests; (2) We are, it seems to me, illogically using "laboratory aids" as indicators for, and guides to, treatment; and (3) We have nearly forgotten the tried and established principles—our heritage from former generations—in the treatment of syphilis and the syphilitic, while listening to the comforting and seductive melody—"Therapia magna sterilisans."⁶⁹

It is my purpose to emphasize here a few of our shortcomings by recalling some well-recognized and dependable diagnostic and therapeutic principles and by asking ourselves just a few questions. I shall neither offer a definite plan of treatment, nor laud any drug. I shall, however, call attention to some of the principles now frequently utilized and to other long-established principles now seldom recognized, in the treatment of syphilis and the syphilitic in any period of the infection.

It seems to me that irrespective of the time that may have elapsed after infection, the same principles should govern our treatment of the

*Read before the St. Louis Medical Society, January 22, 1924.

1. This paper was published in the January, 1924, number of the American Journal of Syphilis. It is reproduced here because the author desired to present his views in our JOURNAL so our members might read them and also to present the discussion which has not previously been published.

individual, no matter what form of medication we may choose to administer.

Recognizing an individual to be syphilitic,* the questions naturally arise: How shall we treat him and over what period of time? In other infectious diseases our therapy should be, and usually is, founded on knowledge of the individual's health and disease tendencies as disclosed by a study of his family history; a study of his life, of his reactions to his environment, of his habits, of his occupation and on some knowledge of his total physical and mental condition. This principle seems axiomatic in its application to the treatment of disease regardless of its nature. Strange to say this principle at the present time is not often recognized in the treatment of syphilis, since the treatment is based mainly on one seeming essential fact: the individual gives a positive Wassermann reaction.^{78 79 55 77}

Very often with only this limited knowledge concerning a person some so-called "specific" alone or in combination with some other is administered. In what quantity, or how often, or over what period of time a specific is administered, seems to depend very largely upon the information derived from our indicator for, and from our guide to, treatment, namely, the Wassermann test. Nowadays, very often this "test" not only supplies the diagnosis, but it also supplies the "control" of treatment. The positive test having established the diagnosis, should plus not speedily become minus with the use of one specific, another and still another is tried. If the spirochetes are "fast" to one, they will surely be "loose" to another, or to a combination of specifics in proper proportions.⁸ In our quest for a negative, we may, in desperation, give "specifics" oftener or double or treble the dose.^{55 77 79 24} Why not? With the foregoing pseudodiagnostic and therapeutic principles to guide us, we can no longer think very much about the sufferer; it is the negative we are after, and we must get what we go after. Remembering the number of negative Wassermann reactions (relatively speaking in all stage of syphilis) even in the presence of active clinical manifestations; the variation in the degree of this test in many individuals and its temporary disappearance in some with or without the influence of "specifics"; the possible, yes frequent, presence of some other cause of some or all of the complaints, does it not seem rather illogical to base either a positive or negative diagnosis of syphilis solely on "laboratory tests," and at the same time to use these tests as practically the only indication for, guide to, and control of treatment?^{6 7 22 23 24 55 77 78 79}

Formerly our surest indication was the patient's general condition but nowadays this is almost ignored by many of us. Formerly treatment did not wholly cease until three, four or five years after infection and not then, unless the patient had remained free from subjective and objective evidence of his infection for at least one year.¹ Formerly the patient was kept under rather continuous observation and treatment for a varying number of years, and during these years we watched his weight; we regulated, as far as possible, his habits, his daily life; we husbanded his vitality; strengthened it, when we could, and gave such advice and treatment as we believed would tend toward maintaining or increasing his natural resistance. Do we, can we think of such a plan at present when our sole objective seems to be a negative, and when we can visualize so clearly the *slaughter* of myriads of spirochetes with our new "specifics" or in combination with the old? Was the former plan better than that now so generally employed? Obviously this question cannot be answered for a few more years. The whole profession, however, has not yet yielded to the "seductive melody," and those of us who have not will surely continue to look for the answer.

There is no denying the fact that the present-day objective in the treatment of syphilis is the certain "cure" by the administration of chemicals; hence, in trying to carry out this objective, the syphilitic is often lost to view.^{43 53 54 18} As a profession we have never had much concern about him after the "cure" had been wrought, and never have we, it seems, had so little concern as at the present time. Many of us are acquiring the habit of disregarding the individual prior to, during, and after treatment, and of treating the *positive* Wassermann reaction rather than the syphilitic or his disease. Such pernicious therapeutic principles can only have the effect of giving to the individual an unwarranted sense of security and of commercializing the treatment of the disease. Since the advent of the Wassermann reaction and arsphenamine, syphilitics are often taught to believe themselves "cured" when the Wassermann reaction becomes negative, and are thus made to feel "safe" from further manifestations of the infection as never before in the history of syphilis.^{2 4 5 18 53 54 55 77} Many physicians believe, and consequently many persons are taught to believe, that a positive Wassermann reaction is an indication for intensive treatment and that a negative reaction, in the absence of gross signs, is a contraindication for any treatment whatever. The syphilitic has thus become a sort of laboratory animal. Why not, when laboratory tests are used so largely by the profession both as a positive indicator for, and guide to, treatment?

*Since we have no certain means of knowing the termination of syphilis in individuals who have acquired it in utero or at some time after birth, all such individuals are here considered syphilitics.

Whom shall we blame? Certainly not the laboratories. We once knew better; we know better now, but the trouble with many of us is that we forgot, and we still forget. It isn't that we haven't light in abundance on the problems of syphilis, but being human, we just naturally take the "shortest cut" to diagnosis and to treatment. The well-trained physician, however, knows, even if he at times just forgets and takes the shortest, that the longest is always the surest and safest. The syphilitic is not a mere laboratory animal. Let us never forget that he is a human being and that the protean manifestations of his disease can neither be recognized nor controlled by "short-cut" methods. Moreover, let us begin to realize that in the recognition and control of his disease, the syphilitic deserves, because his disease demands, the best diagnostic and therapeutic endeavor modern medicine affords. Obviously he can have neither the one nor the other when the laboratory makes the diagnosis and guides the treatment.

Let us reflect on the natural history of syphilis and ask ourselves three serious questions:

I. Have we ample justification for the present-day teachings and practices in the recognition and treatment of syphilis and of the syphilitic?

II. Are our brilliant so-called "cures" now or have they ever been, with but few exceptions, other than symptomatic cures?

III. Have we sufficient biological and clinical evidence to justify the conclusion that the favorable influence of remedies on syphilis is dependent on any factor other than that of stimulating the defensive mechanisms inherent in each syphilitic?

Each of these questions may, in a measure, be answered by recalling the natural history of a syphilitic infection, either influenced or uninfluenced by remedies. Such symptoms as malaise, indisposition, general bodily discomfort, pain now here and now there or definitely localized, mental and physical inadequacy, torpor, gastric disturbances, dizziness and slight elevation of temperature occurring in some individuals usually six to twelve weeks following the infection, are considered constitutional manifestations, or the reactions of the whole organism to the spirochetal invasion. These symptoms usually become less pronounced and subside in a short time, whether the individual receives treatment or not; the local manifestations, if any have occurred, disappear and as a rule in the course of time a relative degree of health returns. The patient thereafter considers himself "cured" if he has had what his physician believes to have been adequate treatment; or, if his disease has not been recognized by himself or his physician, he remains in either case oblivious to it and enters the

so-called latent period of the disease. In some individuals this period develops very early; in some very late, and in others, fortunately in only a few, not at all. Arbitrarily fixed, the so-called latent period begins from one to five years after infection. Careful inquiry into the personal histories of those known to be syphilitic and even of those to whom we have given what we consider adequate treatment, discloses in many, breaks in health which can often be interpreted as recurrences of the constitutional manifestations of the disease.^{40 46}

When we shall seriously study the recurring constitutional manifestations of syphilis, we shall find them to be by far the most frequent and among the more important.^{40 46} They are among the more important because they appear to be Nature's warnings and seem to represent the reactions of the whole organism to the infection—its struggle to overcome it or to establish a better tolerance for it. It is a clinical fact, not always appreciated, that during the so-called latent period of syphilis its more serious manifestations seldom develop without warnings. Our recognition of the "recurring constitutional manifestations" will often enable us to aid Nature's efforts and thus prevent, by well-directed therapy in many individuals, the more serious manifestations.

SOME OF THE TEACHINGS OF CLINICAL EXPERIENCES

Accumulated clinical experience in the natural history of syphilis should lead us to the realization: (1) that scarcely any organ or tissue may remain exempt throughout the so-called latent period of the infection; (2) that its frank manifestations may occur, or recur at any time in the life of a syphilitic, however thoroughly we may have treated him; (3) that its more subtle physical signs, such as "cachectic pallor" with or without anemia, pigmentations, cardio-vascular and other visceral changes, alterations in reflexes, in the special senses, sensation and pupils, etc., may develop insidiously in the course of years;^{25 40 46 47 48} (4) that a large number of apparently healthy syphilitics disclose positive Wassermann reactions and a larger number some of the physical signs just mentioned, provided sufficient time following the infection has elapsed; (5) that some syphilitics are innately, plus-potentially either parietic or tabetic or both; (6) that in consequence of the chronic nature of syphilis the local or general resistance often becomes lowered; (7) that syphilitics, relatively speaking, are often incapable of reacting in a normal manner to the stresses and strains of existence; and (8) that we have no definite means of knowing when the one-time infected individual is free from his disease. It is particularly the insidious development of some of the fore-

going physical findings and, from time to time, the recurrence of constitutional manifestations in many individuals during the so-called latent period of the disease which should cause us to question the reality of such a period and never to lose sight of the constitutional and chronic nature of a syphilitic infection. All clinical evidence is in support of the idea that the virus, once it has invaded the tissues of the body, so long as it remains, seldom if ever becomes wholly dormant—latent.^{40 46 47 48 52 53 54 67}

RELATIVE TOLERANCE OR LATENCE—WHICH?

If the teachings of clinical experience in the natural history of syphilis be true, are they not in conflict with the idea of latency—an idea in which we have heretofore implicitly believed?^{33 34 67} A relative tolerance for the virus, meaning thereby an excellent, a fair or a poor resistance of the whole or parts of the organism but seldom an absolute resistance, seems to be a better conception; one more in accord with clinical experience and the natural history of the disease than that of latency.^{40 46 47 48} The recurrence of constitutional manifestations and the development of subtle, though definite physical signs during periods of "relative tolerance," are doubtless due to many factors, chief among which seem to be the inherent resistances of the tissues of the individual, his habits, his mode of living and his environment. If the first factor (inherent resistances) is defective and from circumstances becomes more so, the disease may pass beyond our control. The other factors (habits, mode of living and environment) may in many cases be controlled, and the first (inherent resistances) may often be improved by attending to the others with the result that a good degree of health can be established in the vast majority of syphilitics. But our control of any one or all of these factors is seldom absolute for the reason that tolerance is relative only; hence individuals who have contracted syphilitic infections, either in utero or after birth, more often disclose than do others relatively lowered local or general resistances. Careful studies of the life and clinical histories of syphilitics abundantly demonstrate the truth of this statement.^{40 43 46 47 48}

ABUSE OF LABORATORY AIDS. THE IMPORTANCE OF FAMILY STUDIES. SYPHILIS A GERM-PLASM OR RADICAL POISON

When laboratory aids to diagnosis are used as evidence of cures, both the physician and the patient are in positions most insecure. The physician is led to feel that he need no longer be concerned about the cured patient; the patient is led to feel that he need no longer be concerned about his disease. The patient may

thereafter live as he will. He may marry, of course, since he is "cured" and this, too, with medical sanction.^{67 7 10 1 5 65 66 67} Many of us believe that syphilis is always "cured" by adequate treatment, and we naturally seek proof of our cures. Do we not, at this time, usually accept repeated "negative" or "negative provocative" laboratory reports as positive evidence of cure?⁵⁵ Do we not point with pride to the progeny of those syphilitic parents we have treated when the progeny disclose no visible signs of congenital syphilis?³ Do we not in such negative clinical findings see convincing proof of our "cures" in parents? Fortified by the absence of manifest signs of syphilis in the progeny and with negative laboratory reports in the parents, do not many of us find ample justification for the present-day teachings and practices in the recognition and treatment of syphilis?⁵⁵ Those of us who have found ample justification in such evidence will continue to find it; will continue to be blinded by the glare of our therapeutic triumphs until we begin more generally to study the life histories of syphilitics, including those whom we formerly treated and "cured," until many more of us begin to study the life histories of their wives and children, and until many more of us begin to make intensive physical examinations of the several members of the family. Only a few mainly incomplete studies have been made in these directions and some of these are recorded in the voluminous literature of syphilis.^{19 21 22 23 26 65 66 36 42 44} No study, however, is more complete and more worthy of careful consideration than that of W. Raven (*Deutsch. Zeitschr. f. Nervenheil.* 1914, li, p. 314). Personal studies in such directions will appeal to the investigator stronger than words, and when made in sufficient numbers will cause many of us to be less certain about our ability to cure the disease by any drug or combination of drugs yet known to us; to have less confidence in the present-day teachings and practices in the treatment of syphilis; to recognize most keenly that our cures are still mainly symptomatic;^{27 28 29 31 32 53 54 56 34 67 71 72 73 80 75} to be less willing to give sanction to the marriage of a syphilitic, and to appreciate more fully than we do today that syphilis is a racial poison unparalleled by any other.

No one has ever contended that syphilis is beneficial for the race; on the contrary, it is coming to be universally recognized that syphilis is a germ-plasm or racial poison.^{80 50 51 5 10} We have heretofore usually considered it such only when the parents have been untreated or inadequately treated, and we shall continue to do so until we fully recognize syphilis as a possible "germ-plasm poison" and as a familial disease.⁴⁰ When we find evidence of syphilis in one member of a family, we should adopt

the principle of studying every member of that family. In doing so, we should not content ourselves with serologic studies and with searching for the usual signs of congenital syphilis in the progeny, but we should apply in these studies the knowledge we now possess in reference to certain laws of heredity, and in doing so ask ourselves these questions:

If syphilis is a germ-plasm or racial poison only in the progeny of the untreated or the inadequately treated; and do the progeny of the adequately treated wholly escape its blighting, devitalizing effects?

We know of no standard of normality by which we may measure individuals in reference to total development and adaptability to environment, except that standard disclosed by the fraternity and their parents and more remote ascendants. It is generally accepted as a rule in human and animal breeding that, in the absence of disease factors "like tends to beget like" in total development and adaptability and that healthy parents beget children comparing favorably with each other and with their parents in these directions. "A chip off the old block" is expressive of the expectation usually realized in the offspring in healthy human breeding. The parents and more remote ascendants, therefore, serve as firm foundations—as biological standards, by which the individuals of the race or family may be measured. I have repeatedly emphasized the importance of using such standards in our studies of the effects of disease toxins or other poisons in parents on the offspring, and have called these comparative clinical and anthropometric methods.^{36 37 38 39 41 49 51} When such methods of study are applied in syphilitic families, it is unusual to find a child meeting the usual expectation of healthy human breeding. To become convinced of this fact, one need only make such studies in a few families wherein syphilis is known to be present in the mother or in both parents and as a control in a few families wherein syphilis, other diseases, alcohol, or other poisons can be positively excluded. Such studies do show the relative infrequency of the usual signs of congenital syphilis in the progeny, but they, nevertheless, show in many of such progeny deviating characteristics in total make-up and in capacities for adaptation, and that even the progeny of those parents whom we believe to have been adequately treated seldom wholly escape the devitalizing or blighting effects of the parental infection.

A prominent dermatologist, recently lauding arsphenamin, expressed the belief that by its use "the period of treatment might be shortened" and "that marriage of the syphilitic might not be so long deferred." Does the natural history of treated syphilis justify such

belief—such unguarded optimism?^{1 5 23 40 46 47 48 53 54 43 34 32 71 80 76} Our therapeutic triumphs have rendered us blindly optimistic in the belief in our "cures," and the proof of this fact is best evidenced by the attitude of many of us toward the marriage of the syphilitic. We are at the same time most pessimistic about the future of individuals who fail to remain under some "standardized" (?) treatment for a few months, or until the Wassermann reaction has become repeatedly negative. Before the Wassermann era, clinical experience had taught us that the syphilitic should remain under treatment two, three, or five years,^{3 2 4 5} and since this era, so far as we know, the nature of a syphilitic infection has not changed. It is safe to say that not more than 10 per cent. of the total number of syphilitics who come under medical observation in the early periods of the disease receive what is believed to be "adequate treatment"; hence the number of adequately treated cases is insignificant when compared with the number we believe to be inadequately treated and with the number who either ignore or are unaware of their infection.^{35 40} The truth of the matter is that no one can say when a syphilitic is cured, because clinical experience teaches that in any period of the life of the infected individual, incident to failing tolerance, the lowering of general, or local resistance, or independently of the one or the other, active manifestations may, and often do, occur or recur and these, too, in some, irrespective either of the manner or the length of treatment. Neither can we positively say when the syphilitic is no longer capable of conveying the disease to his wife and, if so, possibly through her to his child. But this we do know. Serologic and spinal fluid studies of the one-time-known-to-be syphilitic are in accord with clinical studies in showing that a relatively large number of supposedly adequately treated individuals are still syphilitics; that some of the wives of such syphilitics are also syphilitics, and that some of the progeny of such syphilitic parents are likewise contaminated.^{19 20 21 26 23 22 37} Believing in our cures and resting contentedly in the presence of apparent good health, in the presence of a negative Wassermann reaction and in the absence of active manifestations, we come to regard the one-time-known-to-be syphilitic as *cured*. He is thereafter no longer the object of medical observation and study. If he is cured, certainly he may marry, since there can be no danger of infecting consort or progeny; and if we later look at him at all, unless we find some of the usual gross manifestations, we construe the absence of such as positive proof of our therapeutic endeavor—the positive cure of syphilis by chemical means.

HUMAN MECHANISMS OF DEFENSE: THE USE AND ABUSE OF REMEDIES; TWO FUNDAMENTAL PRINCIPLES

The natural course of a syphilitic infection and the clinical and the laboratory findings appear to afford justification neither for the frequent present-day teachings and practices in the treatment of syphilis nor for the belief that our cures in most cases are other than symptomatic.⁴³ But all such evidence definitely points to the conclusion that the same mechanisms of defense become operative in the presence of a syphilitic infection as in any other infection. If the same mechanisms of defense are at the bottom of our so-called "cures," then we have in these mechanisms rational foundations for our therapy. These mechanisms of defense (inherent resistances) may be so active in some individuals that they speedily overcome the spirochetal infection unaided by any medication whatever. These mechanisms of defense (inherent resistances) are, therefore, the syphilitic's most valuable assets in combating his infection.^{40 43} If these "mechanisms" exist, then they should be most zealously guarded both by the patient and the physician: by the patient in his manner of living and in his co-operation with his physician; by the physician in his advice, in his use of drugs, and in his avoidance if possible of every weakening influence on these mechanisms.

Clinical experience daily teaches the beneficent effects of our remedies in the relief of some syphilitic manifestations, but it also teaches that it is possible through over-treatment to do harm. A "humoral" therapeutic conception—"Therapia magna sterilisans"—renewed with delight by many in the profession coincident with the discovery of arsphenamin, has proved in the light of clinical experience to be largely founded upon chemical and theoretical rather than upon clinical and biological conceptions. Our medicinal treatment of syphilis is still largely expectant, and it will aid us and in turn it will aid the army of syphilis if we recognize this fact. Clinical experience, as well as the natural history of human syphilis, teaches that in arsphenamin, arsenic, silver, mercury, iodides, iron, tryparsamide, etc., we have remedies merely—not "cures" in themselves of a syphilitic infection. When these drugs act beneficially in the treatment of syphilis they appear to act as stimulators of the defensive mechanisms rather than as direct spirocheticides in man and in laboratory animals.^{43 81 82 84 86} So long as one may so adjust the remedy to a particular individual without overstimulating and thus weakening or paralyzing his defensive mechanisms, remedies have an important place in the treatment of syphilis, but we must remember that our remedies are like two-edged swords—they can

be made to do great good and they can be made to do great harm. It seems to me that not the most important thing to do for a syphilitic, relatively speaking, is to give him medicine. I say not the most important, because the giving of medicine supplies only one of the many conditions underlying a well-directed therapy, regardless of the nature of the disease. Both the natural and clinical history of treated and untreated syphilis teach that notwithstanding the absence of a natural immunity to syphilis in man, he, nevertheless, seems to be possessed of unusual inherent resistances to, or of an unusual natural tolerance for, the virus of syphilis. If this be true, we may deduce two fundamental principles in the treatment of syphilis and the syphilitic—First, *the principle of making an accurate survey of the individual's "inherent resistances" through a study of his family history, of his past and present reactions to his environment and of the sum-total of his physical condition.* Second, *the principle of strengthening the individual's inherent resistances or of increasing his natural tolerance, by every possible means throughout his natural life.* Both these principles seem to be neglected when the Wassermann reaction is used as the essential indication for, and guide to, treatment, when we blindly base our entire therapy on so-called "specifics" and when we ignore the teachings of clinical experience in the natural history of syphilis.

SAFEGUARDS FOR THE SYPHILITIC AND THE RACE

Remembering the protean manifestations and the chronic and insidious nature of a syphilitic infection and our inability to know its termination in any individual save possibly by reinfection, are we not for these reasons justified in holding firmly to the principle—that a known syphilitic should be the object of medical observation and study throughout the remaining years of his life?^{*} Does not accumulated clinical experience in the problems of syphilis justify the general acceptance of this principle? This principle will meet with many objections, chief among which will be that such concern on our part about the disease will unnecessarily alarm patients and make of them syphilophobics. We do not hesitate, however, to educate our tuberculous patients, to speak frankly to the individual about his organic heart disease, to keep the chronic nephritic under constant observation, to be solicitous about the patient with diabetic symptoms, and our frankness in such conditions leads only to good, because we thereby educate and thus secure the earnest co-operation on the

^{*}By observation and study is not implied constant medication, or any medication whatever, after the first three to five years, unless a complete restudy of the whole individual at least once in each year should indicate further medicinal treatment.

part of such patients. Then why have we been less frank with syphilitic patients or less solicitous about them when all clinical experience teaches that we are dealing with an infection in many individuals, the chronicity of which can be compared with no other prevalent, communicable disease? The answer is: Our therapeutic triumphs have heretofore blinded many of us to the teachings of clinical experience and to the natural history of treated and untreated syphilis.

No man can deny the brilliant, one might say miraculous, results of our so-called "specifics" in the prompt relief of many of the manifestations of syphilis, but let us hesitate to interpret these results as other than symptomatic cures.^{27 28 29 30 31 32 34 53 54 56 70} The prompt disappearance of some symptoms and some physical signs and the natural history of treated as well as untreated syphilis should convince us that the "same mechanisms of defense" are at work in the human organism in the presence of a syphilitic infection as in any other infection, and that our remedies do not act directly as spirocheticides and sterilizers, but rather as stimulators of the defensive mechanism, inherent in each host. Let us aid these, if we may, with our remedies, but while we are trying to do so, let us not forget that these mechanisms are the syphilitic's most valuable asset in his struggle with his infection, and that we may weaken natural defenses by overstimulation and thus do more harm than good.^{34 43 53 54 62 70} Let us educate him in the nature of his infection—give him neither false security nor undue alarm about it. Let us teach him that right living and drugs are both important and that constant vigilance throughout his life is the price of his safety. Let us make him feel, if he will thus live, that in all probability he will lead a relatively healthful and useful life in spite of his infection—a more healthful and useful life than one who lives riotously, even though one be free from such infection. Let him know that clinical experience teaches that the syphilitic need deny himself nothing that life affords when used in moderation, but for the possible welfare of his potential mate and descendants—for the possible welfare of the race—that he should gladly deny himself the privilege of marriage.

Notwithstanding the recent marked advance in the problems of syphilis, the words of Philippe Ricord—"Oh, Syphilis, when wilt thou be understood!"—are still a mandate, still a challenge to the medical profession. It is my conviction that we shall heed his mandate, accept his challenge and minimize our own shortcomings (1) when the diagnosis of syphilis shall be based more often on both clinical and laboratory findings; (2) when the treatment of syphilis and the syphilitic shall be

based more often on knowledge pertaining to the whole individual—and less often solely on laboratory signs and (3) when we shall come to think more about the syphilitic, the consort and the progeny and less about spirochetes and sterilization.

With such diagnostic and therapeutic principles to guide us, we shall always find more to do for the syphilitic than interpreting laboratory symbols and trying to convert positives into negatives; we shall then think more about the individual and less about his disease; more about strengthening his inherent resistances to, or increasing his natural tolerance for, his infection, and to these ends we shall find many ways in addition to the use of drugs. Confessing the limitations of our diagnostic procedures, of our measures and remedies yet fully conscious of the great good to be derived from all of them, may we not through more general appreciation of their limitations, and through education of the syphilitic and the masses, more nearly approach the ideal cure—the prevention of syphilis?

Metropolitan Building.

SELECTED REFERENCES

1. Fournier, A.: Syphilis and Marriage (Eng. translation Morrow), 1881.
2. — The Treatment of Syphilis (Eng. translation by Marshall), 1906.
3. Fournier, Edm.: Syphilis hereditaria Tarda (German translation by K. Ries), 1908.
4. Hutchinson, J.: Syphilis, 1910.
5. Ravogli, A.: Syphilis in Its Medical, Medico-Legal and Sociological Aspects, 1907.
6. Pusey, William A.: Syphilis as a Modern Problem, 1915.
7. Stokes, J. H.: The Third Great Plague: A Discussion of Syphilis for Every-Day People, 1917.
8. — and Bushman, G. J.: A Clinical Study of Wassermann-Fast Syphilis with Special Reference to Prognosis and Treatment. *Am. Jour. Med. Sci.*, 1920, clx, 658-668.
9. — and Brown, P. W.: Two Hundred Syphilitic Patients Whose Chief Complaint was "Stomach Trouble," an Interpretative Analysis of the Diagnosis of Syphilis in Consultant Medical Practice, *Am. Jour. Med. Sci.*, 1922, clxiv, 867-884.
10. Vedder, E. B.: Syphilis and Public Health, 1918.
11. Nonne, M.: Syphilis and Nervous System (Eng. translation by Ball), 1916.
12. — *Deutsch. med. Wchnschr.*, xlv, 1119.
13. Hazen, H. H.: Practical Observations on Syphilis, *Am. Jour. Syph.*, 1922, vi, 16, 204, 425, 586. Also cont'd. vii, p. 83, 417.
14. Hazen, H. H.: Syphilis, C. V. Mosby Co., 1919.
15. Thompson, Lloyd: Syphilis: Diagnosis and Treatment, ed. 2, Lea & Febiger, 1920.
16. Grinker, J.: Syphilis of the Nervous System, *Tice's Practice of Medicine*, 1921, x, 103.
17. Lescapasse, V. D.: Syphilis, *Tice's Practice of Medicine*, 1921, iii, 329.
18. Michel, L. L. and Goodman, H.: Treating Syphilitics, *New York Med. Jour.*, 1921, cxiv, 102.
19. Platt and Göring: Untersuchungen an Kindern und Ehegatten von Paralytikern, lvi, 1959.
20. Raven, W.: Serologische und klinische Untersuchungen bei syphilitischen Familien, *Deutsch. Ztschr. f. Nervenheilk.*, li, 314.
21. Haberman, J. V.: Hereditary Syphilis in Connection with Clinical Psychology and Psychopathology, *Jour. Am. Med. Assn.*, lxiv, 1141.
22. Jeans, P. C.: Familial Syphilis, *Am. Jour. Dis. Children*, xi, 11.
23. Solomon, H. C., and M. H.: The Family of the Neurosyphilitic, *Mental Hygiene*, ii, 71.
24. — The Treatment of Neurosyphilis, *Jour. Am. Med. Assn.*, Nov. 24, 1823.
25. Stoll, H. F.: The Late Manifestations of Syphilis with Special Reference to Arterial Disease, *Jour. Am. Med. Assn.*, Vol. 63, p. 1558.
26. — Hereditary Syphilis a Cause of Chronic Invalidism and Diagnosis by Intensive Familial Study, *Ibid*, lxvii, 1885.

27. Finger, E.: Noch einmal die Frage der Neurorezidive, *Wien. med. Wchnschr.*, lxxii, 22.
28. — Quecksilber und Salvarsan: Bemerkung zur Syphilistherapie zur Wirkung der gebräuchlichen Antisyphilitika. *Wien. klin. Wchnschr.*, xxvi, 561.
29. Ueber moderne Syphilistherapie, *Med. Klin.*, March 19, 1922, xviii, 361-365.
30. — Die Syphilis des Zentralnervensystems, ihre Ursachen und Behandlung, *Wien. klin. Wchnschr.*, Jan. 27, 1921, xxxiv, 33.
31. — Die Pathologie und Therapie der Syphilis im Lichte der modernen Forschungsergebnisse (Ein Fortbildungsvortrag), *Wien. klin. Wchnschr.*, April 29, 1920, xxxiii, 373.
32. Gennerich, W.: Die Syphilis des Zentralnervensystems, ihre Ursachen und Behandlung, Springer, Berlin, 1921.
33. Engman, M. F., and Ebersson, F.: A Biologic Study of Latency in Syphilis, *Arch. Dermat. and Syph.*, 1921, iii, 347.
34. Warthin, A. S.: The Persistence of Active Lesions and Spirochetes in the Tissues of Clinically Inactive or "Cured" Syphilis, *Am. Jour. Med. Sci.*, N. S. 152, p. 508.
35. Philip, C.: Wie viele Syphilitiker lassen sich genügend behandeln? *Münch. med. Wchnschr.*, lxi, 245.
36. Graves, W. W.: The Scaphoid Scapula: A Frequent Anomaly in Development of Hereditary, Clinical and Anatomical Significance, *Med. Record*, May 21, 1910.
37. — The Clinical Recognition of the Scaphoid Type of Scapula and of Some of Its Correlations, *Jour. Am. Med. Assn.*, July 2, 1910.
38. Some Remarks on the Scaphoid Scapula and Its Syndrome, *Trans. Nat'l Ass'n for the Study of Epilepsy*, etc., 1911.
39. Remarks on the Scaphoid Scapula and Its Syndrome: The Connection with Syphilis in the Ascendants, *Jour. of Cutan. Dis.*, April, 1913.
40. — On the Clinical Recognition of Syphilitics, *Med. Record*, Aug. 24, 1912.
41. — Discussion of Syphilis, *Jour. Am. Med. Assn.*, lvii, 1665.
42. Discussion of Paper by Dr. C. B. Davenport, *Jour. Am. Med. Assn.*, lxi, 2148.
43. Discussion of Paper of Drs. Riggs and Hammes, *Jour. Am. Med. Assn.*, lxiii, 1282.
44. Discussion of Paper of Dr. H. F. Stoll, *Jour. Am. Med. Assn.*, lxvii, 1885.
45. On the Clinical Recognition of Syphilitics, *Med. Record*, Aug. 24, 1912.
46. — Ueber das klinische Erkennen von sogenannten latenten Syphilitikern, *Deutsch. Ztschr. f. Nervenhe.*, 49 Band, Leipzig, 1913.
47. — Observations on the Recognition of the Virus During the Later Periods of Syphilis: Two Successful Inoculations of Rabbits Directly from the Blood of General Paretics, *Interstate Med. Jour.*, 1913, xx, No. 6.
48. — Can Rabbits be Infected with Syphilis Directly from the Bloods of General Paretics? Observations on the Recognition of the Virus in the Later Periods of the Disease, *Jour. Am. Med. Assn.*, Oct. 25, 1913, lxi, 1504-1509.
49. — Discussion of Dr. Philip C. Jeans' paper: The Reactions in the New Born and Growing Child, *Am. Jr. of Syphilis*, Vol. iv, No. 3, 1920.
50. — Some Principles Seldom Recognized in the Treatment of Syphilis and the Syphilitic, *Med. Record*, June 19, 1920.
51. — Some Principles in the Clinical Recognition of Syphilis and the Syphilitic, *Amer. Jour. Syph.*, July, 1920, iv, No. 3.
52. — The Physical Examination of the Nervous System or Some of the Essentials in Neurologic Diagnosis, *Med. Clinics of North America*, November, 1920, iv, No. 3.
53. Heidingsfeld, M. L.: The Too Intensive Treatment of Syphilis with Arspenamine, *Jour. Am. Med. Assn.*, lxxi, 428.
54. Trimhle, W. K.: Some Observations on the Treatment of Syphilis, *Jour. Mo. State Med. Assn.*, xvii, 94.
55. Pollitzer, S. G.: General Prognosis of Syphilis in the Light of Recent Progress, *Jour. Am. Med. Assn.*, lxxiv, 775.
56. Fry, Frank R.: The Treatment of Syphilis of the Nervous System, *Interstate Med. Jour.*, 1913, xx, No. 9.
57. Brown, W. H., and Pearce, L.: Experimental Syphilis in the Rabbit, *Jour. Exper. Med.*, 1920, xxxi, 475-498.
58. — and — Experimental Syphilis. IV. Cutaneous Syphilis. Part 2, Clinical Aspects of Cutaneous Syphilis, *Jour. Exper. Med.*, 1920, xxxii, 473-495.
59. — and — Superinfection in Experimental Syphilis Following the Administration of Subcurative Doses of Arspenamine or Nearsphenamine, *Jour. Exper. Med.*, 1921, xxxiii, 553-567.
60. Brown, W. H., and Pearce, L.: Note on the Preservation of Stock Strains of *Treponema Pallidum* and on the Demonstration of Infection in Rabbits, *Jour. Exper. Med.*, 1921, xxxiv, 185-188.
61. — A Study of the Relation of *Treponema Pallidum* to Lymphoid Tissues in Experimental Syphilis, *Jour. of Exper. Med.*, 1922, xxxv, 39-61.
62. — The Resistance (or Immunity) Developed by the Reaction to Syphilitic Infection and Some of the Effects of the Suppression of this Reaction, *Arch. Dermat. and Syph.*, 1920, ii, 675-678.
63. — Experimental Production of Clinical Types of Syphilis in the Rabbit, *Arch. Dermat. and Syphilis*, 1921, iii, pp. 254-626.
64. Reasoner, A. M.: Some Phases of Experimental Syphilis: with Special Reference to the Question of Strains, *Jour. Am. Med. Assn.*, 1916, lxxvii, 1799-1805.
65. Moore, J. E., and Keidel, A.: Studies in Familial Neurosyphilis I. Conjugal Neurosyphilis, *Jour. Am. Med. Assn.*, 1921, lxxvii, 1-5.
66. — Studies in Familial Neurosyphilis. II. Familial Neurosyphilis from Various Extrafamilial Sources, a Clinical Contribution to the Question of Neurotropism, *Jour. Am. Med. Assn.*, 1922, lxxx, 818-820.
67. Keidel, A.: Studies in Asymptomatic Neurosyphilis. IV. The Apparent Role of Immunity in the Genesis of Neurosyphilis, *Jour. Am. Med. Assn.*, 1922, lxxxix, 874-876.
68. Ricord, Ph.: Letters on Syphilis (Eng. Translation by W. P. Lattimore), 1852, p. 178.
69. Erlich, P.: Address in Chemiotherapy, *Brit. Med. Jour.*, Aug. 16, 1923, p. 353.
70. Neisser, A.: Syphilis u. Salvarsan, Berlin, 1913.
71. Osler, W.: The Campaign against Syphilis, *Lancet* (London), 1917, i, 789.
72. Mattauehek and Pilez: Ueber die Weiteren Schicksale 4134 Katamenisch verfolgter Fälle leutischer Infection, *Med. Klin.*, 1913, ix, 1544.
73. Waldvogel and Süssguth: Die Folgen der Lues, *Berl. klin. Wchnschr.*, 1908, xiv, 1213.
74. Hamill, E. H.: Syphilis from a Life Insurance Standpoint, *Am. Jour. Dermat. and Syph.*, 1909, xiii, 144.
75. Schroeder, H. H.: Syphilis in Relation to Life Insurance, *Med. Record* (N. Y.), 1914, lxxxv, 691.
76. Brooks, H.: The Heart in Syphilis, *Am. Jour. Med. Sci.*, 1913, cxlvi, No. 3, p. 313.
77. Fordyce, J. A.: The Prognosis of Syphilis, *Am. Jour. Med. Sci.*, 1923, cxlvi, No. 3, p. 313.
78. Craig, C. F.: The Wassermann Test, St. Louis, C. V. Mosby Co., ed. 2, 1921.
79. Baketel, H. S.: The Treatment of Syphilis, New York, The Macmillan Co., 1920.
80. Morrow, Prince, A.: The Relation of Social Diseases to the Family, *Am. Jour. Sociology*, 1909, xv, No. 5.
81. Brown, H. H. and Pearce, L.: Defensive Reactions of Animals Infected with *Spirochaeta Pallida*, *Jour. Am. Med. Assn.*, Nov. 19, 1921, lxvii, 1619.
82. — Animal Resistance and the Endocrine System of the Rabbit in Experimental Syphilis, *Proc. Soc. Exper. Biol. and Med.*, 1923, xx, 476.
83. Pearce, L.: Tryparsamide: Its Action and Use, *Jour. Am. Med. Assn.*, Jan. 5, 1924, lxxxii, No. 1, p. 5.
84. — Studies on the Treatment of Human Trypanosomiasis with Tryparsamide (the Sodium Salt of N-Phenylglycineamide-p-Arsenic Acid), *Jour. Exper. Med.*, Dec. 1, xxxiv, Supplement 1.
85. Chesterman, C. C.: Tryparsamide in Sleeping Sickness: A Study of Forty Cases with Especial Reference to the Cerebrospinal Fluid, *Tr. Roy. Soc. Trop. Med. Hyg.*, 1923, xvi, 394.
86. Lorenz, W. F., Loevenhart, A. S., Bleckwenn, W. J., and Hodges, M. A.: The Therapeutic Use of Tryparsamide in Neurosyphilis, *Jour. Am. Med. Assn.*, May 26, 1923, lxxx, 1497.

DISCUSSION

DR. JOSEPH GRINDON: A certain note of pessimism in the essay just read strikes us all the more forcibly because it comes from one we know to be both constitutionally and by conviction an optimist. What, we may ask, is an optimist? The man who fell off the roof of the Railway Exchange Building, and who was heard to remark, as he passed the seventh floor on his way down, "So far, so good," was an optimist. Dr. Graves is not *that* sort of optimist, for he clearly sees the danger that lies before. His optimism rather consists in pointing out how the danger may be avoided or minimized.

'Were Ricord indeed to revisit the glimpses of the moon, he would it is true find many of the problems of syphilis still unsolved, but he would gladly admit that of those his genius had not essayed some had a true answer, others were greatly clarified, and that a way to the solution of still others was clearly indicated. Let us draw some cheer from these facts and look hopefully to the future.

So many important points have been raised by the essayist, that one cannot hope, within the brief time allotted, to discuss them all. I shall therefore limit myself to a consideration of the status of the symptomless individual who has or has had syphilis.

Is such a one a "latent" case? Not necessarily. We can be sure of true latency, during the life of the patient, only in the presence of a clinical negative with a serological positive, and even then only by assuming that a positive Wassermann necessarily

means a surviving syphilis. Let us make that assumption. The classical type of that combination is the Colles' woman. But what about the individual who is, and say for three years has been, both clinically and serologically negative? To call him a latent case is to beg the question, which is: Is he indeed a latent syphilitic, or is he cured? How is the question to be determined? Not on serological grounds, since one may give negative reactions over a period of years and later a positive; nor on clinical grounds, since all admit that the uncured syphilitic may remain symptom-free for long periods. Nevertheless one must admit that the coincidence of two negatives, arrived at in different fields of enquiry, especially when continued for several years in the absence of treatment, constitutes a presumption of cure, since the only reason to the contrary is that certain such cases are shown to be uncured either by a clinical or serological relapse or at post mortem.

We must therefore admit that a cure cannot be established with absolute positiveness in any given case. But how often is any diagnostic conclusion established on purely negative grounds absolutely conclusive? How often in the ordinary affairs of life do we arrive at certainty on such grounds? Yet in the practice of medicine as well as in other matters we daily guide our conduct by negative evidence, adjudged in the light of the sum total of our experience in similar instances. By what sort of experience are we to be guided in the momentous matter now under consideration?

Such experience can be inferred from the judgment of careful, conscientious and critical observers in the matter of the marriage of the one-time syphilitic. A judgment expressed on that question is a judgment as to the approximate certainty of a cure. Three years ago, a committee of the Société Française de Dermatologie et de Syphiligraphie* appointed for the purpose and including among others the names of Darier, Leredde, Goubeau, Balzer, Thibierge and Jeanselme, reported favorably upon the marriage of once-infected individuals whose clinical, serologic and therapeutic data conformed to certain rigid requirements.

My own experience may be unconvincing to others, but it will serve as a reason for the faith that is in me. Some of my personal cases have been forty years under virtually continuous observation. I might arrange all my cases under a few heads: (1) Early cases soon passing from observation. (2) Cases well advanced when first observed. (3) Cases that failed to receive thorough treatment. (4) Cases the subjects of other grave diseases, or showing obvious physical inferiority or impairment. (The last two classes would include many alcoholics.) (5) Cases the subject of an especially virulent infection, as shown by papular or pustular in place of macular early eruptions, by iritis or early nerve lesions. Among these five classes no claim of probable cure could be advanced. (6) There remains a group of individuals of good antecedent health, ordinarily correct habits, under observation from their primary or earliest secondary manifestations, who remained under treatment as long as counseled and thereafter under observation. Of these a very few, verging upon my class five, never made even an apparent cure, that is, never remained symptom-free for more than a few months at a time in spite of vigorous continued treatment.

Much the larger number however of this last group, and this includes many treated in pre-arsphenamin days, have for 10, 20, 30, or 40 years have remained clinically and when investigated serologically negative, and have lived active, useful and comfortable lives. Some have married and have reared strong

and healthy families. What share I might claim in such results consisted only in looking after their general health and in vigorous treatment, long continued.

It is this experience that leads me to believe that a favorable case, treated early, treated correctly and sufficiently, who for years after ceasing treatment remains clinically and serologically negative may have a reasonable assurance of cure.

I wish to stress the point of treatment. I would not for a moment minimize the importance of the natural body resistances. On the contrary, I consider them our chief asset in the treatment of syphilis. Nor do I fail keenly to realize the limitations of our therapy. But I repeat my belief, which I admit is in the nature of things not susceptible of actual demonstration, that treatment adequately and properly administered, will in a certain proportion of favorable cases meet with success.

Warthin it is true has shown that many cases for years apparently well and serologically negative showed microscopical evidence of syphilitic infiltration and the presence of occasional spirochaete. But after all, these were found at the post mortem table, and it does not seem fair to apply facts learned from those who succumbed to those who remain alive and apparently well. Besides, what and how much treatment did these cases receive? I am convinced that most cases are insufficiently treated, many are incorrectly treated, and some are abominably mistreated.

In the main the contentions of the essayist are my contentions but my attitude is somewhat more hopeful.

DR. FRANK R. FRY: I have appeared on this floor and elsewhere a number of times in discussions of syphilis. I believe it is because I naturally find myself aligned with a group of individuals who for certain reasons feel a vocation, as it were, to expostulate rather than to expound in recent discussions of this subject. It is a rather numerous group, especially in all centers of activity. In this society you have heard Dr. Graves before and also Drs. Grindon, Edler and Ives, who are opening the discussion this evening. I had hardly realized how long we have been in this expostulation line until I realized this evening that it is ten or twelve years ago since Maj. Edler, then my associate in practice, read in this society a short and rather snappy paper. His theme was the folly of overworking the facts of a lowered cell count and negative Wassermann until he had better insight to their meaning. This is still the pith of our leading contention. And still, at the risk of being rated mere reactionaries or irreconcilable, many are more or less actively contentious. And why? Briefly I may say, to protect our profession and the public from another therapeutic hysteria with the greatly demoralizing effects attending it. Although this hysteria is very evidently subsiding, there are still those who chase the same old arsenically colored rainbow and some are looking for a new one with a metallic tincture, the ghost of Ricord exclaiming none the less. Why should we worry about the treatment of syphilis (or anything else)? There is an excellent panacea for all worries under this head and that is diagnosis. In the case of syphilis it is not the mere finding of evidence of past or present syphilitic reactions in this or that locality, but it means the kind of a quest that shall include all tissues, all localities. This is only rarely vouchsafed us in comparison to the whole number of patients whom we must handle as best we can. This however does not excuse us for carelessness or for trying short-cut or wholesale methods. The more one really knows of syphilis and its remedies and of patients the more careful he grows. The adventurers are those who neither know the malady nor the medicaments. This

*Bull. de la Soc. Fr. de D. et de S., 1920, p. 232.

observation is no more or less true of syphilis than of all maladies. The greater interest is because of the multiplied instances of syphilis and hence there should be the greater caution.

Dr. Grindon and I here are classmates, we have practised in the same community for over forty years. We have handled syphilitic subjects from different angles, but of course with an overlapping interest in each other's particular field. I find myself agreeing exactly with his carefully arranged observations in classifying syphilitic patients. However, in treating them there would be some minor differences of opinion. And again this would depend on how long and how well we are able to keep control of our patients.

DR. GEORGE IVES: It appears to me that Dr. Graves has presented a very strong criticism of a large number of the profession who are concerned with the recognition and care of the syphilitic. It also appears that no practitioner can hold, practice and advocate such views without a degree of self-sacrifice. The essayist is following the path of duty as his conscience dictates, and I congratulate him upon his courageous position.

If the majority of the profession are wrong, more or less, in the treatment of the syphilitic, I believe they are nevertheless conscientious. If their position is wrong I attribute it to such factors as the acceptance of wrong leaders, the worship of authority, the incomplete scientific knowledge of the questions involved, etc. And since the syphilitic in free clinics and in government medical departments receive essentially the same treatment which is administered in private practice I do not believe that it is commercialism which dictates the treatment that most physicians think proper.

The Wassermann test occupies a very large part in the subject of syphilis. Although this test is as much to me as the appendix is to some surgeons I would for the sake of the syphilitic and for the sake of the good name of our profession, that the truth concerning this test be more generally known. The fact that the test has survived and continues in good favor, notwithstanding extreme abuses, is by itself convincing evidence of its exceeding merit.

Dr. Graves has emphasized the facts that the Wassermann test is not always positive in clinically manifest syphilis and that syphilitics have complaints which are not due to syphilis. Hence, the importance of the history and physical examination is evident. I would emphasize some of the weaknesses of the Wassermann test as it is applied in this manner: It is sometimes correctly negative in clinical syphilis; it is very infrequently correctly positive in other conditions; it is not infrequently positive in the non-syphilitic; it is frequently incorrectly negative in the syphilitic. I have frequently stated and I repeat now, that any negative blood if sent to a sufficient number of laboratories will receive a positive report; and a positive blood if sent to a sufficient number of laboratories will receive a negative report.

Too frequently Wassermann reports are accepted without question. Wrong reports lead to the non-recognition of the syphilitic; and in other instances it places the stigma of syphilis on the non-syphilitic. When incorrect reports are detected they are too often attributed to fallacies inherent in the test. However, the peculiar merit of this test is that it has very few inherent fallacies and most errors are due to the incapacity of those who perform the test.

To obtain the best results with the Wassermann test requires a rare type of skill. This skill is rarely acquired by others than physicians who are scologists with long personal experience in the performance of the test. As a procedure of skill it ranks second to none in the field of medicine, so far as I know.

It is erroneous to believe that an office attendant or nurse can acquire this skill. Their results are often right and often wrong and, as the consequences of errors are often tragic, it becomes the duty of the profession to know if these statements are facts.

I know, and have known for some time, that my opinions on this matter do not meet unanimous approval. Almost daily experiences and observations on the Wassermann test have made my position secure. I shall cite a few recent observations to illustrate the wide variations in results which are frequently obtained, and to illustrate the weakness of the test as commonly performed as a diagnostic test or as a guide to treatment.

1. A young professional woman had a generalized skin eruption. The Wassermann test performed in a public health laboratory was reported four plus. She was declared syphilitic. She consulted a second physician. The Wassermann in a second laboratory was negative. The condition proved to be pityriasis rosea.

2. The spinal fluid from a patient with cerebrospinal lues was repeatedly reported four plus. The last specimen was sent to both the first and to a second laboratory. The second laboratory reported negative, and the first laboratory reported as usual four plus.

3. A child's blood was repeatedly reported four plus. The conscientious physician thought the child should have intensive treatment in a special hospital and the child was sent to such a hospital. Two Wassermann tests at the hospital were reported negative. Treatment was not advised and the child was taken home. Since then the first laboratory has reported the Wassermann positive (four plus) on two occasions.

4. A wife went to one laboratory and the husband to another. One received a four plus report and the other a negative report. A third laboratory reported both four plus.

I do not suppose that travelers guide the direction of their route by drifting clouds, but physicians do when they adopt the common Wassermann test as a guide in the treatment of the syphilitic. I do believe that a professional Wassermann test should be of great assistance in determining the duration and intensity of treatment, but against using even such a test as the only guide are the valid objections given by Dr. Graves.

The "bright lights" of the laboratory are very bright. They can be dimmed only by misuse and abuse. Some of these abuses are: Their use without the complete clinical study of the individual patient; the existence of commercialism in the laboratory field and the existence of even more commercialism among some clinicians; the desire to place the "bright lights" in the hands of non-medical individuals with mediocre attainments and the belief that this may be done without violating any moral code.

I would say that he who applies these "bright lights" with the highest degree of efficiency and who can interpret them with proper conservatism is and must be a clinician who belongs to no humble rank.

In these remarks may be found my views, some expressed and some implied, on one portion of the problem: How to recognize and how to treat the syphilitic.

DR. WM. EDLER: If I were to paraphrase Dr. Grave's paper I would say that the important feature of it is the caution to adhere strictly to scientific medicine and not to dabble in the occult. Why syphilologists should want to compete with clairvoyants in prognosticating the future health of a syphilitic is difficult to understand. Some years ago before this society there was presented a paper that alleged phenomenal results in the treatment of

neurosyphilis by intraspinal medication. Quite recently I heard a renowned specialist assert that we could now accurately determine whether a syphilitic would develop neurosyphilis or not and whether it would be *safe* for him to marry. The literature is more or less replete with dogmatic assertions as to the diagnosis, treatment and ultimate outcome of neurosyphilis, but the significant point is that the soothsayers are not neurologists but usually specialists who have not a remote interest in the central nervous system. Neurologists, as a whole, are entirely too wary and too familiar with the versatility of the spirochaeta pallida to offer opinions as to the ways which such spirilla might perform. They do not have to take the other side of the street when they meet one of these "safe to marry" patients, nor do they have nightmares concerning the disasters of intraspinal medication. I have often wondered if when the physician having advised his patient that it is safe to marry, the patient confided to the physician that it was his intention to marry the physician's daughter—would it make any difference in the advice offered?

Dr. Graves asks, "How should we treat syphilis and over what period of time?" A long time ago I formulated what I thought and still think a fool-proof answer. I have propounded it here on the floor of this society several times and I like it so well that I want to repeat it: "The proper way to treat a syphilitic is to give him as much anti-syphilitic treatment as he will tolerate over as long a time as he will take it." The poker in the aphorism is in the two words "anti-syphilitic" and "tolerate," but the formula if properly kept in mind will help us to remember that different human beings need distinct and separately detailed medical supervision. Whether my patient becomes a syphilophobia does not worry me nearly as much as whether he becomes a paretic, and whether he becomes a paretic or not is not going to depend upon whether his Wassermann reaction is numerically much plus or little plus at the end of some particular course of treatment. My recollection is that an internist treating a case of pneumonia doesn't work for a leucopenia nor in the treatment of a case of tuberculosis does he exhaust himself trying to get a negative tuberculin reaction. Who was it that first propounded, contrary to all previous experience, that a positive Wassermann meant dire results to the syphilitic? Upon what is the hypothesis based? Dr. Graves intimates perhaps it was the ingenuity of the laboratory man; but whatever the source, it is unscientific if for no other reason than that at least neurologically many patients laboratorially improve while they clinically die.

DR. GEORGE GELLHORN: To this question which has been presented to us by Dr. Graves in so impressive and comprehensive a manner, the gynecologist too may make a contribution. Because the primary lesion in women is so often hidden in the complexity of the genitals, because of its short duration, and because of the fleeting nature of the secondary manifestations, syphilis is very often unrecognized in women and the fact is lost sight of, that in its manifold disguises syphilis may produce gynecological symptoms without any local pathological substratum. I remember, for instance, the case of a young woman with metrorrhagias which, despite two curettages, continued unabated for four months until I was fortunate enough to recognize the syphilitic nature of the malady and to cure it by specific treatment. Conversely, there are many thousands of women with amenorrhoea who in vain receive injections of ovarian extracts and other organic preparations, when a course of antisymphilitic treatment would

quickly restore the temporarily depressed function of the ovaries.

If acquired syphilis in women remains so often unrecognized, this is doubly true of congenital syphilis. A case in point is that of a young woman who consulted me for a gonorrheal infection only a few weeks ago. She said she was 24, but she looked no older than 16; a pitifully thin, poorly developed individual who dragged herself through her day's work only with the greatest difficulty. In addition to her local infection I tried to improve her general condition, but when the usual hygienic measures failed signally I bethought myself of the possibility of syphilis. Wassermann was weakly positive, but a thorough family and personal history and a careful general examination soon convinced me that hers was a case of congenital syphilis. Mixed treatment accomplished what all tonics and hygienic measures had failed to do, and for the first time in her life the girl is now enjoying good health.

I think it is a mistake to decry the brilliant achievements of serology. It is true, however, that undue or exclusive reliance on laboratory work threatens to blunt our powers of observation, and I heartily subscribe to Dr. Graves' plea that the syphilitic patient as a whole should be studied and not merely his disease or the test tube reaction he may give.

SUSPENSION-EXTENSION APPARATUS

JAMES G. MONTGOMERY, M.D.

KANSAS CITY

The following suspension-extension apparatus was designed to simplify the transportation of patients in hospital beds and to furnish a compact, less cumbersome and easily adjusted appliance.

It is made of one and one-half inch iron tubing with a vertical rod (A) attached to a horizontal rod (C) by a short cross arm (B) through a swivel T-tube (D).

The vertical rod (A) is attached to the bed by two clamps (G and H) and a slot (I) at the bottom which may be used when there is a transverse iron strap at the foot of the bed. The large clamp (G) permits the vertical rod (A) to slide up or down so the height of the horizontal rod (C) may be varied. The smaller clamp (H) fastens to the vertical rods in the bed when the slot (I) is not used over the iron strap.

The T-tube (D) at the top of the vertical rod (A) through a set screw (J) allows the horizontal rod (C) to revolve in a horizontal plane and another set screw (K) permits a variation in length and reversion of the short cross arm (B) and the horizontal rod (C).

The horizontal rod (H) has two hooks, one at the short end (E) that is reversible, and an adjustable universal clevice hook (F) on the long end that may be set at one and one-half inch intervals.

I think this apparatus is superior to certain other suspension-extension appliances because:

it will fit any type of hospital bed, will never wear out, the entire apparatus is intact at all times, the ease of transporting beds to which

of the so-called tendency to peptic ulcer, by the eradication of infectious foci, by the exercise of moderation in eating, drinking and smoking, and by the establishment of spontaneous evacuation of the

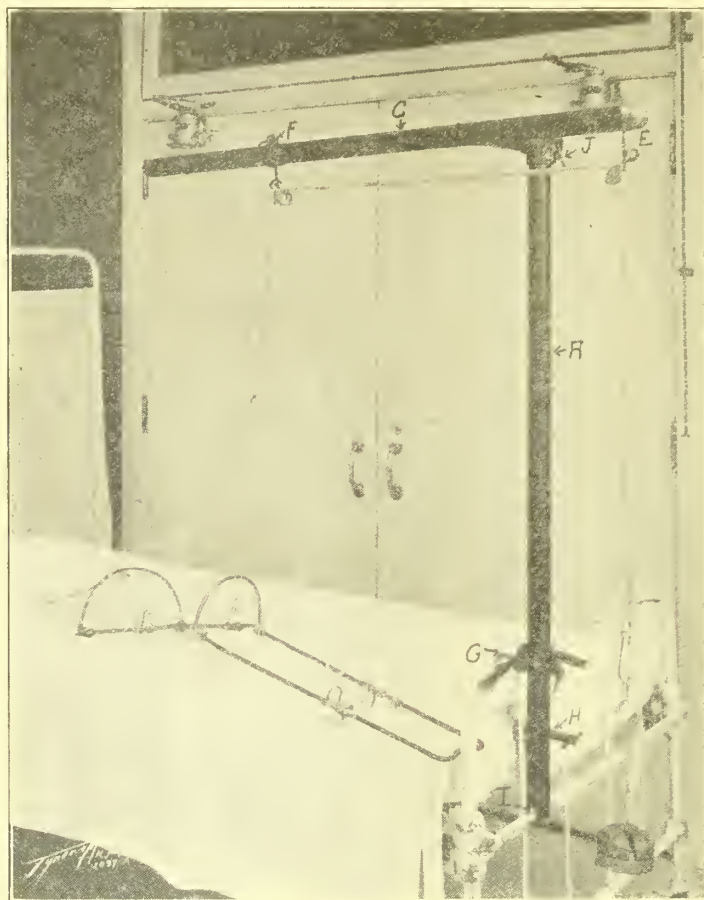


Fig. 1.

it is attached, and it can be set up in one minute without the aid of assistants or tools.

425 Argyle Building.

MEDICAL TREATMENT OF PEPTIC ULCER WITHOUT ALKALIS.—In the opinion of Anders Frick, Chicago (*Journal A. M. A.*, Feb. 23, 1924), the chief therapeutic indications for the treatment of gastric ulcer should be: to check excessive secretion of gastric juice, to inhibit excessive peristaltic contractions as far as possible, to relieve intragastric tension and pyloric spasm, and to cause inflammation to subside. Frick pleads for: (1) A sedative and antiphlogistic treatment of peptic ulcer in cases in which no surgical complications are present. (2) The systematic and prolonged use of bismuth subnitrate "a hautes doses," as advocated by Trousseau. (3) The restriction of the use of alkalis to only those cases of peptic ulcer in which bismuth fails to relieve pyrosis. (4) The ambulatory management of those cases of peptic ulcer which are not "acute" and of those which are not complicated by marked anemia, gastric dilatation or gastroptosis. (5) The prevention of recurrences of peptic ulcer or, in other words, for the overcoming

bowels. (6) The immediate use of bismuth subnitrate, for a short fast, and for a gradually increasing diet in case symptoms of peptic ulcer should recur.

THE DIAGNOSIS OF BRONCHIAL ASTHMA.—Charles H. Eyermann, St. Louis (*Journal A. M. A.*, April 14, 1923), stresses the fact that in addition to a thorough physical examination, a painstaking history gives us the diagnostic solution of many of our cases of paroxysmal dyspnea. It is a history that requires patience, thoroughness, system and intelligent cooperation on the part of the patient. Such a history, with the information obtained from sensitization tests and complete physical examination, makes it possible to restrict the term bronchial asthma to those conditions that result from allergic reaction. Bronchial asthma is an allergenic manifestation characterized by recurrent attacks of paroxysmal dyspnea, due to spasm of the bronchioles, developing as the result of exposure to a foreign protein to which the individual is sensitized; thus such terms as cardiac, renal, uremic and winter asthma should be eliminated. The application of the term asthma to any other condition is a nosologic error, confusing to the medical profession and misleading to the patient.

THE JOURNAL OF THE Missouri State Medical Association

JUNE, 1924.

EDITORIALS

ASSOCIATION OFFICE MOVED.

The office of the Association will be moved, June 15, to 901 Missouri Theatre Building. All communications should be addressed to that number.

THE SPRINGFIELD SESSION

The Sixty-seventh Annual Meeting held at Springfield, May 6, 7, 8, 1924, was in every respect except that of attendance fully up to the expectations of interest and work accomplished. We had hoped that an unusually large number would attend the Springfield meeting, but the registration showed that only 365 were at the meeting.

The Greene County members received many expressions of congratulations and appreciation for the excellent manner in which the Association was entertained, and the scientific program was very generally approved as holding unusual interest on a wide variety of subjects. Our guests were enthusiastically received, Dr. W. A. Pusey, of Chicago, president-elect of the American Medical Association, giving an address on the work of the parent body which was very illuminating. Dr. F. C. Warnshuis, Grand Rapids, Mich., speaker of the House of Delegates of the American Medical Association made a vigorous appeal to the members to take an active interest in the work of county, state and national associations and pointed out the futility of expecting great objects to be accomplished unless every member realized his obligation, his duty and his privilege in furthering the purposes of the organization. Dr. W. E. Dandy, of Baltimore, in a very graphic manner showed what wonderful progress has been made in the diagnosis of tumors of the brain and the method of locating and extirpating the offending growths. His discourse was illustrated with a large number of lantern slides in which he depicted all the steps of the work from the moment of entering the ventricles through the skull to the operation of removing the tumor and the condition of the patient thereafter.

One of the most interesting features of the meeting was the scientific exhibits conducted by Drs. W. W. Duke, on pollens; Willard Bartlett, on goitre; Paul F. Cole, on diagnostic X-ray studies. These proved highly instructive and many expressions were heard that this feature be repeated at every meeting.

The presidential address by Dr. G. Wilse Robinson on "The Victories of Medicine," reviewed some of the outstanding triumphs that reputable medicine has accomplished in the past few years and made a plea for reducing the number of insane persons. He called attention to the strain of present day life upon the nervous mechanism of ordinary individuals which causes many of them to break down thus overcrowding the numerous hospitals for the insane. Such conditions can be largely remedied if proper methods are organized for instructing the people in correct measures for preventing such a calamity and for curing many cases by modern treatment.

In the House of Delegates no action was taken concerning the method of electing the president. The committee on revision of the constitution and by-laws reported adversely on the proposition suggested at the Joplin Session to establish a method of electing the president other than by the House of Delegates. This report was adopted. The terms of councilors were reduced from five years to three years each. This made it necessary to elect the entire twenty-nine councilors at this session. The nominating committee brought in a report in which most of the present councilors were re-nominated for periods of one to three years. That report was adopted, so that in the future the terms of about one-third of the councilors will expire annually. It was a matter of universal regret that Dr. A. H. Hamel, St. Louis, Councilor for the Twentieth District, declined reelection. His place was filled by the election of Dr. Robert E. Schlueter, St. Louis. The only other new councilor elected was Dr. C. F. Enloe, of Jefferson City, to take the place of Dr. W. A. Clark, Jefferson City, for the Nineteenth District.

The House of Delegates endorsed the proposition to form a Woman's Auxiliary as has been done in fourteen other states, and Mrs. Willard Bartlett, St. Louis, was requested to organize the Auxiliary. This body will be composed of the wives and daughters of active members of our Association for the purpose of enlightening lay organizations upon the objects and purposes of the state medical association and the county medical society.

The by-laws concerning membership were amended so as to require members moving from one county to another to transfer their membership to the county society at their new location after one year if they continue in active practice at that point. The purpose of this amendment is obvious and is in harmony with the Fellowship requirements of the American Medical Association.

A resolution was adopted by the House of Delegates, strongly endorsing the proposition to re-establish the clinical years in medicine

at the State University and that the instruction in the last two years be conducted at Kansas City.

The new officers elected are: President, W. A. Clark, Jefferson City; vice presidents, C. B. Francisco, Kansas City; H. L. Kerr, Crane; E. C. Shelton, Eldon; E. L. Spence, Kennett; Jules Brady, St. Louis. The secretary, Dr. E. J. Goodwin, St. Louis, and the treasurer, Dr. J. Franklin Welch, Salisbury, were re-elected. Dr. A. R. McComas, Sturgeon, was elected Chairman of the Council. Delegates to the American Medical Association, Dr. G. Wilse Robinson, Kansas City; alternate, Dr. F. M. McCallum, Kansas City; Dr. W. J. Ferguson, Sedalia; alternate, Dr. A. J. Campbell, Sedalia.

The Committee on Defense, Dr. C. E. Hyndman, St. Louis, Dr. R. E. Schlueter, St. Louis, and Dr. R. S. Vitt, St. Louis, were re-elected.

Dr. E. E. Brunner, of Marshall, and Dr. W. H. Vogt, of St. Louis, were elected members of the Committee on Health and Public Instruction.

The invitation to meet in Kansas City in 1925 was unanimously accepted.

All of the meetings were held in the Shrine Mosque, a beautiful new building where 6,000 persons can be seated in the auditorium. The House of Delegates, Council, Scientific Exhibits and Commercial Exhibits were all held in the same building.

The Health Officers held their session on Tuesday and Wednesday and the Society of Medical Secretaries enjoyed a very interesting session and dinner at the Colonial Hotel on Wednesday. The officers of the Secretaries Association are: President, Dr. Claude J. Hunt, Kansas City; Vice President, Dr. Austin McMichael, Rockport; Secretary, Dr. J. T. Hornback, Nevada.

The Golf Tournament was a hard played match and the cup was won by a nose only by Dr. W. A. Clark, of Jefferson City.

INFORMATION ON POLITICAL CANDIDATES

For the information of our members we have endeavored to collect data upon the activities of candidates for political office and publish herewith such information as is available. It is important that every member of the Association give thought to this subject and endeavor to vote for the election of that candidate whose record and activities promise a fair and just consideration of questions appertaining to the public health and to the practice of medicine. Physicians are citizens as well as guardians of public health, so they have a double duty to discharge in voting for candidates to make laws governing their rights as licensed practitioners of medicine and their ob-

ligation to protect the public from disease invasion. We can only point out the probable behavior of candidates after election and leave to the judgment and discretion of our members the choice of a candidate.

The following candidates had filed up to the time of going to press on this issue of the JOURNAL. In July issue we will publish information on other candidates.

FOR GOVERNOR

DEMOCRATIC CANDIDATES

Floyd E. Jacobs, Kansas City. A lawyer, at present public administrator at Jackson County, an office he has held for three terms. Mr. Jacobs has expressed himself as being in harmony with the purposes of the organized medical profession in upholding the status of higher medical standards and the protection of public health.

George H. Moore, St. Louis. A lawyer, now in general practice, active in local and state Democratic politics for a number of years. He was appointed United States Internal Revenue Collector for the eastern district of Missouri in 1914 and held the office until August, 1923, when he resigned. Mr. Moore is well known to the members of the reputable medical profession in St. Louis and is regarded by them as a man who would uphold the dignity and honor of medical profession and oppose the adoption of any laws detrimental to the public health or destructive to higher standards of medical practice.

Arthur W. Nelson, M. D., Bunceton. Dr. Nelson is a graduate of the University of the South Medical Department (Sewanee Medical College), Sewanee, Tennessee, 1899. After his graduation in medicine he took post graduate work in New York City, but upon his return to Missouri he devoted himself to the farming interests he possessed and did not enter active practice. He has continued his principal occupation of raising live stock and farming on an intensive scale but has never lost his interest in the medical profession. He has many friends among the reputable medical profession in his section of the state who regard him as a man who will protect the interests of the profession. He has expressed himself as favorable to the ideals of the reputable medical profession and opposed to quackery and illegal practitioners.

REPUBLICAN CANDIDATES

Samuel A. Baker, Jefferson City. Elected superintendent of public schools in 1918 and served four years. He was a candidate for re-election in 1922 but was defeated. If elected governor he would probably exercise intelligent judgment and fair methods in dealing with the problems concerning medical practice and health work.

Hiram Lloyd, St. Louis. At present Lieutenant-Governor. Lieutenant-Governor Lloyd is a contractor and builder and has been very active in Republican politics in St. Louis and throughout the state for many years. He was a member of the House of Representatives in 1909 and 1911, being floor leader for the Republicans in both sessions. He was elected Lieutenant-Governor in 1920 and presided over the Senate in 1921 and 1923. He had charge of the administration program in both sessions of the legislature and in conjunction with Senator Ralph was influential in lowering the standards of medical practice by the passage of the bill removing the word "reputable" from the medical law in 1921. In 1923 he was regarded as opposed to the bill restoring the word "reputable" in the medical law which was passed at that session. If Lieutenant-Governor Lloyd is elected governor, the medical profession may be prepared for a very strenuous fight at the legislative session to preserve the present standards of medical practice, for he has shown that his sympathies are not in harmony with the purposes of the organized medical profession.

Victor J. Miller, St. Louis. A former member of the police board of St. Louis, appointed by Governor Hyde and from which position he resigned in 1922. His attitude toward high standards of medical practice and the protection of the public health is not known, for in his public life he has not had occasion to express his views on these important topics.

FOR LIEUTENANT-GOVERNOR

DEMOCRATIC CANDIDATES

Robert Lee Hains, Slater (Saline County). Mr. Hains is a banker and farmer and has served five terms in the legislature as a member of the House of Representatives from Saline County. In the 51st General Assembly (1921) he led a fight on the floor of the House against removing the word "reputable" from the medical practice law which, however, was a losing battle, for the bill passed the House and the Senate and was signed by the governor. In the 52nd General Assembly (1923) Mr. Hains again took up the cause of the medical profession and worked industriously for the restoration of the word "reputable," this time waging a successful battle for upholding the standards of the medical practice. In all his activities as a public servant, Mr. Hains has proved dependable, farsighted and clear-thoughted upon measures protecting the public health and conserving the rights of the reputable medical profession.

E. G. Hancock, St. Louis. Little is known of Mr. Hancock and his attitude toward ques-

tions of a public health nature or of medical practice. In his announcement for the candidacy he has issued a "platform," a weird and meaningless statement that tells nothing of his attitude toward public health questions.

Senator Carter M. Buford, of Ellington. Senator Buford is well and favorably known to practically the entire membership of our Association, for he served in the Senate for many years and was always in sympathy with the efforts we put forth to maintain high standards of medical practice and the protection of the public health. He was a candidate for Lieutenant-Governor in 1920 but was defeated.

REPUBLICAN CANDIDATES

Phil A. Bennett, Springfield. A member of the Senate in 1921 and 1923, being at that time a resident of Buffalo and publisher of a newspaper. He was also a stockholder in a small company that put out a proprietary medicine for stomach trouble. Throughout his service as senator he was opposed to measures maintaining the medical standards; he voted to remove the word "reputable" from the medical law in 1921 and was absent at the roll call in 1923 to restore the word. His other activities in the Senate indicate that he supported the osteopaths in their effort to practice in hospitals and voted for the passage of the chiropractic bill in 1921 and for the passage of the bill giving the osteopaths the right to practice in eleemosynary institutions in the state and counties.

FOR THE SENATE

(Senators for the odd numbered districts are to be elected this year.)

Third District. (Andrew, Clay, Clinton, De Kalb, Holt, Platte Counties.) Baylis T. Gordon, Liberty (Clay County) Democrat. Senator Gordon is a farmer and lawyer and represented Clay County in the House of Representatives in the 48th and 49th General Assemblies (1915 and 1917). He was elected to the Senate in 1920. In 1915 and in 1917 Senator Gordon voted No on the passage of the chiropractic bill. In 1921, as a member of the Senate, he voted "no" on the passage of the chiropractic bill, was absent on the final passage of the Ralph bill to remove the word "reputable" from the medical practice act and voted "no" on Senator Gray's bill to permit the osteopaths and others to practice in eleemosynary institutions. In 1923 he was a member of the senate committee on eleemosynary institutions and voted "yes" on the bill to restore the word "reputable" to the practice act.

Seventh District. (Kansas City.) James E. Summers, Kansas City, Republican. A lawyer, practicing general law. He was a mem-

ber of the House of Representatives in 1923 and voted for the passage of Senate Bill No. 131, restoring the word "reputable" to the medical practice law. His general attitude toward legislation on medical and public health topics gives a favorable impression of his understanding of the importance of good laws on those topics.

Thirteenth District. (Marion, Monroe, Ralls and Randolph Counties.) James H. Whitecotton, Paris, Democrat. Senator Whitecotton is a lawyer. He was prosecuting attorney at Monroe for four years and represented Monroe County in five sessions of the House of Representatives, being elected Speaker of the House in the 41st and 42nd General Assemblies. He was elected to the Senate in 1920 and voted against the removal of the word "reputable" in 1921. He voted against permitting osteopaths and others to practice in eleemosynary institutions. He also voted against the passage of the chiropractic bill in 1921. In 1923 he voted for Senate Bill No. 131, restoring the word "reputable" to the medical practice act.

Seventeenth District. (Counties: Cass, Johnson and Lafayette.) J. E. Hereford, of Odessa, Democrat. Mr. Hereford is regarded as a friend to progressive measures maintaining the dignity and standing of reputable medicine and the protection of the public health.

Nineteenth District. (Counties: Christian, Dallas, Douglas, Ozark, Polk, Stone, Taney and Webster.) Dr. Guy B. Mitchell, of Branson, Republican. Most of our members are familiar with Dr. Mitchell's career in the House of Representatives where he was very active in defeating obnoxious measures and protecting medical standards. His election as Senator from his district would put us in the position of protecting our interests and the interests of public health, for he undoubtedly would wield considerable influence with the other members of the Senate.

Twenty-first District. (Counties: Bollinger, Butler, Cape Girardeau, Carter, Dunklin, Ripley and Wayne). Dwight H. Brown, Poplar Bluff, Democrat. Editor of the *Daily American* and the weekly *Citizens' Democrat*; a former president of the Missouri Press Association. He has held no political office that furnished an opportunity for him to express his views on medical and public health legislation, but he is recorded by those who know him as an intelligent man with liberal views, who would exercise sound judgment upon bills affecting the practice of medicine and the public health.

Twenty-third District. (Counties: Mississippi, New Madrid, Pemiscot, Scott and Stoddard.) Tillman W. Anderson, Commerce, Democrat. A banker and stock raiser seeking

re-election. Senator Anderson was a member of the House of Representatives in the 50th General Assembly, 1919, where he voted for the passage of the bill introduced by the State Board of Health providing for the appointment of a reputable physician in each county as a deputy state health commissioner. In that session the chiropractic bill, the bill to remove the word "reputable" from the medical practice law and other obnoxious measures did not come to a vote. In 1923 Senator Anderson was a consistent supporter of the bills favored by our organization and opposed to those measures that in our opinion did not conserve the best interests of the people and the profession.

Twenty-third District. Ralph Wammack, Bloomfield, Democrat. A lawyer, and a member of the constitutional convention. He supported Amendment No. 5, the public health clause. He is a man of high ideals possessing the esteem and confidence of the medical profession and the people in his district.

Twenty-fifth District. (Counties: Franklin, Gasconade and St. Louis.) Richard F. Ralph, of Valley Park, Republican. Senator Ralph was a member of the Senate in 1921 and 1923 and it was due to his persistent and tireless efforts that Missouri was disgraced in 1921 by the lowering of our standards of medical practice when the word reputable was taken out of the medical practice act. He voted for the passage of the Chiropractic Bill in 1921, which was adopted and later vetoed by Governor Hyde, and for the passage of the bill to compel eleemosynary institutions of the state and counties to permit osteopaths to treat patients in those institutions. Altogether Senator Ralph has left no stone unturned in his efforts to defeat any measure supported by the medical profession and pass those bills which we regarded as detrimental to the public health and welfare. This year he has an opponent for the nomination and election. The physicians in the twenty-fifth district ought to use every legitimate means to defeat Senator Ralph.

Harry W. Castlen, of University City, Republican. Mr. Castlen has held no political office that we are aware of which would give him an opportunity to express his views on laws covering medical practice and public health protection. His candidacy is endorsed by the physicians in St. Louis County, where he is known as a man of broad views with an intelligent comprehension of the duties of the state in protecting the people against quackery and incompetence in medical practice and the adoption of reasonable laws governing the protection of the public health. He is opposed for the nomination by Senator Richard F. Ralph, the present incumbent concerning whom

we have made comment above. Every reputable physician in the twenty-fifth district ought to do his utmost to bring about the nomination of Mr. Castlen to this important office.

OTHER CANDIDATES

Among the candidates for Congress is Dr. Stephen A. Newman, of Cassville, president of the Barry County Medical Society, on the Democratic ticket. Dr. Newman has shown himself a man whose judgment can be depended upon in the execution of important duties relating to medical practice and public health, for in the position he occupied under Governor Gardner as superintendent of the Missouri State Sanatorium, 1917 to 1921, he improved the institution in many directions and cared for the patients in a most commendable manner. If he is elected to Congress we may feel sure that the interests of the medical profession and the people in general will be safeguarded against meddlesome legislation insofar as he can use his voice and influence. Our members in the fifteenth congressional district can feel that in voting for Dr. Newman they are making no mistake in furthering the ambitions of a dependable candidate.

LARYNGOLOGISTS MEET AT ST. LOUIS

For the first time in its history the American Laryngological, Rhinological and Otolological Society held its Annual Meeting at St. Louis, May 29, 30, 31, 1924. Hotel Chase was the headquarters for the one hundred and fifty members who attended the convention of this progressive society which, since its organization in 1895, has contributed so much toward the study and advancement of ear, nose and throat work. The program was an extremely interesting one, including twenty-four numbers by some of the most distinguished ear, nose and throat specialists in the country. Among the papers read were: "Acoustic Insulation of the Labyrinth," "Experimental Work on the Semicircular Canals," illustrated by moving pictures; "Relation of the Endocrines to Spheno-palatine Neuroses," "Intestinal Toxemias as Factors in Oto-laryngological Diseases with Special Reference to Histamine." Other topics given consideration were testing of audition and photography of the larynx.

There were five case histories reported, namely, "A Microscopic Study of the Excised Tonsil in Eleven Hundred Tonsils," "Lateral Sinus Thrombosis Presenting Unusual Variations: Streptococcaemia, Transfusion, Recovery," "Simulated Mastoiditis," based on a num-

ber of cases operated upon in which the symptoms were due to sphenoid sinus infection; "The Use of Gentian and Acri-Violet in Infections of the Ear and Upper Respiratory Tract," "Technic of the Radical Frontal Sinus Operation," illustrated with moving pictures.

Dr. Hanau W. Loeb, St. Louis, president of Society, delivered an address on "A Review of the Oto-laryngological Literature of the Society."

The entertainment committee was far from lax. The visiting members were honored with a luncheon given by the local laryngologists at the Racquet Club, and a luncheon for the wives of the members was given by Mrs. Isaac D. Kelley. A tea given by Mrs. Eugene Senseney was a delightful feature of the entertainments. Dr. and Mrs. Hanau W. Loeb invited the visitors to an opera party at the St. Louis Municipal Opera. This occasion was appreciated by all present and gave the visitors an opportunity of viewing St. Louis' beautiful amphitheatre. Through these activities the St. Louis members of the Society certainly showed their appreciation of being the hosts at this first meeting at St. Louis and look forward to the time when they may again have the pleasure of entertaining their fellow members.

PUBLIC HEALTH SUMMER SCHOOLS

The National Health Council and the United States Public Health Service have organized a course of instruction in public health work for physicians and sanitariums during the summer months, beginning June 9. The courses will be given at the University of Iowa, Iowa City, June 9 to July 18; University of California, Berkeley, June 23 to August 2; University of Michigan, Ann Arbor, June 23 to August 2; Columbia University, New York City, July 7 to August 15.

An increasing proportion of the 145,000 physicians and surgeons of the United States are engaging in various forms of preventive medicine and public health work. Pediatricians are beginning systematically to provide for the health of babies for a specified period of time after birth. An increasing number of private practitioners are giving periodic health examinations. Approximately 12,000 to 20,000 physicians are engaged on a part time or full time basis in special clinics and general dispensaries. Others are becoming employed by tuberculosis associations and various private health agencies. Still others are joining the staffs of county, municipal, state and federal health organizations.

For most of these various types of work, the practicing physician finds himself in need of additional training. Some have sufficient

initiative and resourcefulness to obtain this training in the course of their new work. A considerable majority, however, may welcome a chance to obtain up-to-date instruction in a more systematic way. They will find in the public health summer schools of 1924 a unique opportunity for such training. Innumerable combinations of courses are possible. Every physician who has already entered or is planning to enter some phase of preventive medicine or of public health work in connection with his private practice or who intends to become associated with some health agency will eble, at any one of the public health summer schools, to find the type of training he needs to enable him to develop greater efficiency in his new work.

Those physicians who may wish to obtain an advanced degree in public health work will find that the courses at the summer schools have been arranged so that the credits gained will lead to the C.P.H., A.M., M.S., Ph.D., Sc.D., D.P.H., or other advanced degree. Most of the courses given by the University of California and the University of Michigan may be counted towards an advanced degree. Nearly all the courses offered by Columbia University and the University of Iowa are regularly scheduled for credit; those not specifically so indicated may be taken for credit by arrangement with the appropriate department or the dean of the college concerned.

The announcements of the public health summer schools are now ready and may be obtained upon application. Requests should be sent directly to the universities.

WINNERS IN CHEMICAL SOCIETY PRIZE ESSAY CONTEST

Winners in the American Chemical Society's Prize Essay Contest, which is the result of a gift of Mr. and Mrs. Francis P. Garvan of New York City, were announced at the national headquarters of the committee in charge May 26, and two hundred and ninety-four \$20 gold pieces were forwarded to school authorities for distribution among successful competitors. An equal number of high school students were accorded certificates of honorable mention as having submitted the second best essay. The committee will select the six best essays from among the two hundred and ninety-four state winners and will award six four-year scholarships to Yale University or Vassar College to the successful contestants. The scholarships, in addition to tuition, carry \$500 a year in cash and are also the gift of Mr. and Mrs. Francis P. Garvan.

The Prize Essay Contest has been recognized by national and state educational officials and has received the official endorsement of universities, colleges and schools all over

the country. More than thirty-five scholarships have been donated by various universities and colleges, and will be awarded to winners in the contest at the discretion of the state committees in charge and of the college authorities.

The prize winners in Missouri are:

FIRST PRIZE: Ralph Rupert Wilson, Kirksville High School, Kirksville, Mo.; Susan Luhrs, Christian College, Columbia, Mo.; Anthony Sigillito, Ozark Wesleyan Academy, Marionville, Mo.; Aaron Fischlowitz, Soldan High School, St. Louis, Mo.; Harry Litwin, Manual Training High School, Kansas City, Mo.; Frances Wilson, Christian College, Columbia, Mo.

HONORABLE MENTION: Loretto Bauman, Catholic High School, St. Joseph, Mo.; John M. Dording, Conception College, Conception, Mo.; Lucille Knotts, Poplar Bluff High School, Poplar Bluff, Mo.; Alfred Kugel, New Haven High School, New Haven, Mo.; Frances Williams, Manual Training High School, Kansas City, Mo.; Charles A. Rehbein, Wm. McKinley High School, St. Louis, Mo.

It is impossible to ascertain how many essays were entered in the contest, but from reports received by the committee in charge it is estimated that at least 500,000 high school girls and boys participated. The contest was announced in September, 1923, at the fall convention of the American Chemical Society and at this meeting the Society was offered the funds to carry on the contest by Mr. and Mrs. Francis P. Garvan as a memorial to their daughter, Patricia. Six prizes of \$20 in gold were offered in each state and the six scholarships to Yale or Vassar were provided as national awards.

St. Louis University offers a four-year scholarship, including matriculation fee, and the University of Missouri has established six fellowships for the six prize-winning essays in Missouri.

The contest will be continued next year and the committee will announce additional details when the results of the national contest are made public.

NEWS NOTES

DR. ROBERT BARCLAY, of St. Louis, has removed his offices to Suite 301-302 Metropolitan Building.

DR. REINHARD E. WOBUS, of St. Louis, has removed his office to Suite 504-507 Metropolitan Building.

DR. J. D. GRIFFITH, of Kansas City, is reported very ill, having undergone an operation at St. Joseph's Hospital, May 26.

DR. PAUL F. STOOKEY, of Kansas City, has been appointed health commissioner of that city to succeed Dr. E. H. Bullock, who resigned.

DR. W. H. BREUER, of St. James, attended the meeting of the Frisco System Medical Association at Oklahoma City, Oklahoma, April 28 and 29.

DR. JOHN R. CAULK, of St. Louis, was a guest of the Cape Girardeau County Medical Society, April 19, and delivered an address on "Problems in Urology," illustrated with lantern slides.

ON April 17 fire destroyed the home of Dr. T. Guy Hetherlin, of Louisiana. Part of the furnishings were also destroyed. The loss is heavy, as the house and contents were only partially insured.

DR. PAUL V. WOOLLEY has resigned as chief of police of Kansas City. Dr. Woolley served the police department of Kansas City as surgeon for three years and was appointed chief of police January 1, 1924.

DR. EVARTS A. GRAHAM, St. Louis, read a paper before the National Tuberculosis Association, May 6, on "Lung Suppuration" and a paper before the American Association of Thoracic Surgery at Rochester, June 6, on "Lobectomy with Cautey."

DR. WM. H. VOGT, of St. Louis, read a paper before the Kansas Medical Society May 8, on "Anomalies in the Separation of the Placenta," and attended the meeting of the American Gynecological Association at White Sulphur Springs, May 15, 16, 17.

THE State Board of Health has revoked the license to practice medicine issued to Dr. H. F. Mikel, of Columbia, for an indefinite period on charges, which were sustained at the trial, of committing criminal abortion upon a woman who died following the operation.

DR. MINFORD B. HANNA, of Kansas City, was the guest of the Pettis County Medical Society at their regular meeting May 19. Dr. Hanna read an interesting paper on "Pre-natal Care," and followed this with a short illustrated talk on "Vaginal Cesarean Section."

THE Negro physicians in Kansas City have petitioned the hospital and health board to appoint only Negro physicians on the staff of the old City Hospital, which is used exclusively

for Negro patients. The colored physicians believe there are enough capable Negro physicians in Kansas City to staff the hospital with physicians of that race.

THE two chiropractors, H. T. Jett and wife, of St. Louis, who were arrested last April for practicing medicine without a license were each fined \$50 and costs. Jett besides practicing as a chiropractor was a teacher in the Soldan High School, but upon his arrest the Board of Education terminated his services as a teacher. They paid their fines and have left St. Louis, according to latest reports.

DR. J. J. SINGER, St. Louis, read a paper before the National Tuberculosis Association at Atlanta, May 6, on "Thoracoscopy in Pulmonary Diagnosis." He also read a paper on the "Value of Pneumothorax" before the Lee County Medical Society, Keokuk, Iowa, May 22. On June 6 he addressed the American Association of Thoracic Surgery at Rochester, Minn., on "The Result of Artificial Pneumothorax."

A YEAR in the workhouse and a fine of \$500 is the punishment assessed against "Dr." Ernest Behagen by a jury in the court of criminal correction at St. Louis, April 22. It will be recalled that Behagen was arrested by the St. Louis Board of Health for practicing medicine without a license after he had treated a woman suffering from trouble with her eyes and who lost the sight of one eye following the treatment.

Two chiropractors were arrested in Cape Girardeau County, J. L. Bruce at Cape Girardeau and F. H. Statler at Jackson, on grand jury warrants charging them with practicing medicine without a license and were released on bond. Another chiropractor named Dale was also arrested and is out on bond. A woman chiropractor was fined in the circuit court at Jackson some time ago and left the county.

DR. FRED W. BAILEY and Dr. William Engelbach, St. Louis, have resigned from the faculty of the St. Louis University Medical School and the staff of St. John's Hospital. Dr. Bailey was associate professor of surgery in the medical school and associate chief with Dr. Engelbach on the staff of the St. John's Hospital. Dr. Engelbach was professor of medicine at the university and physician in chief at the hospital.

THE J. D. Griffith prize of \$100.00 was awarded to Dr. Russell L. Haden, Professor of Experimental Medicine, University of Kan-

sas, last Friday night at the Annual Smoker of the Academy of Medicine. Dr. Griffith offered this prize for the most scientific paper read before the Academy each year. Dr. Haden's paper on "Ocular Pathology Associated With Dental Infection" was read before the Academy November 2, 1923.

AN ordinance is before the Board of Aldermen of St. Louis which if adopted will authorize the hospital commissioner to pay individuals for blood to be used at the institutions for transfusions when necessary to save the lives of patients. The bill provides for a fund of \$500 to be set aside for this purpose and the hospital commissioner is authorized to pay \$25 for each blood transfusion. At present, blood transfusions are given voluntarily by friends and relatives of patients.

THE National Board of Medical Examiners will hold examination in Parts I and II, June 19, 20, 21. Examinations in Part I will be held on all three days and Part II on the second and third days. The examinations will be conducted at all Class A schools having at least five candidates. Examinations in Part III will be held in various medical centers for those who have already taken Parts I and II, the examinations at St. Louis for Part III being set for June 16, 17, 18, 19.

THROUGH the generosity of Mrs. George Warren Brown, St. Louis, St. Luke's Hospital in that city is the beneficiary of a tract of land of 134 acres and buildings at Crescent, St. Louis County, to be used as a country department for patients needing quiet and seclusion and for those undergoing long periods of convalescence. The property will be known as the George Warren Brown Farm, as a memorial to her husband, founder of the Brown Shoe Company, who died in 1923. Mrs. Brown has provided a sufficient sum of money to care for the upkeep of the buildings and grounds.

THE American Child Health Association in connection with their celebration on May 1 as National Health Day began an intensive campaign on birth registrations throughout the country. Dr. S. J. Crumbine, formerly health commissioner of Kansas, is in charge of the work and will attempt to encourage parents to see that the birth of their children is reported to the local health departments. In seventeen states out of the forty-eight very little effort is made toward collecting adequate statistics of births of children. Missouri ought to be in the birth registration area but as yet we have not attained this distinction.

DR. STEVEN WALTER RANSON has been appointed professor of neuro-anatomy and director of the department of histology and Dr. Leo Loeb has been appointed Edward Mallinckrodt professor of pathology in Washington University Medical School. Dr. Ranson has been head of the department of anatomy in Northwestern University Medical School for some time and Dr. Loeb has been on the faculty of the Washington University Medical School as director of a research laboratory and was formerly director of the research department of Barnard Free Skin and Cancer Hospital. The new appointees will assume their duties July 1.

DR. JOHN L. TIERNEY, of St. Louis, was very much in demand as a speaker during March and April, having delivered addresses during that time as follows: Before the Deaconess Hospital Staff Association, Detroit, Michigan, March 28, and before the Frisco System Medical Association at Oklahoma City, Oklahoma, April 28, he spoke on "Differential Diagnosis of the Endocrine Glands." At Youngstown, Ohio, April 15, before the Mahoning County Medical Society and at Cleveland, Ohio, April 16, before the St. Luke's Hospital Staff Association and Training School he delivered an address on "The Proper Position of Endocrinology in General Medicine."

THE American Journal of Physical Therapy is the name of a new publication from the Professional Press of Chicago. The first number appeared in April and contains 52 pages of reading matter with a few pages of advertisements, chiefly pertaining to physical therapeutics. The editorial announcement indicates that the advertising department will be kept free from misleading and fraudulent advertisements and that the reading pages will contain articles from men who are familiar with this phase of medical practice. The editor is Dr. Charles R. Wiley, assisted by a coterie of specialists. The subscription price is \$2.00 per year.

ON April 28 the new X-ray and radium laboratories of the St. Louis City Hospital were opened to private inspection and put in operation on April 30. The X-ray equipment and the quantity of radium, 545 milligrams, owned by the city, make these laboratories the equal of any similar institutions in the country. The building is especially adapted to the use of the X-ray and the application of radium and contains many special facilities for the treatment of fractures under direct vision while replacing the broken parts, a special operating room for the removal of foreign bodies, the application of deep therapy in the

treatment of cancer and other malignant growths. Dr. R. L. Sante is head of the department.

DR. ARTHUR I. KENDALL, of Chicago, has been appointed director of the Department of Bacteriology and Hygiene at Washington University Medical School, St. Louis. Dr. Kendall comes to Washington University from Northwestern University Medical School, Chicago, of which he was Dean.

The Department of which Dr. Kendall will be director is a new division of the medical school and has been made possible through the gift of \$400,000 of the General Education Board, New York. Dr. Kendall besides being Dean of the Northwestern University Medical School was director of the hygienic laboratories of the Panama Canal commission, was chairman of the yellow fever commission for the International Health Board and served in other equally important positions in bacteriology and research work. He will assume his new duties July 1.

THE Kansas City Clinical Society will hold its Second Annual Conference at Kansas City, Missouri, October 13-18. The highly successful meeting held last fall has encouraged the physicians of Kansas City to extend their efforts for the next session and enlarge the number and variety of clinics to be held this year. It is announced that the following prominent physicians and laymen have accepted invitations to give addresses at the conference next October: Honorable Herbert Hoover, Secretary of Commerce; Dr. Elliott P. Joslin, Boston, Massachusetts; Dr. Frederick N. G. Starr, Toronto, Canada; Dr. Rudolph Matas, New Orleans, Louisiana; Dr. O. H. Perry Pepper, Philadelphia, Pennsylvania; Dr. George E. Vincent, President Rockefeller Foundation; H. S. Cumming, Surgeon General, U. S. Public Health Service; M. W. Ireland, Surgeon General, U. S. Army; Mr. Isaiah Hale, of the Santa Fe System.

Two St. Louis physicians have been appointed consultants to the United States Veterans Bureau by General Frank T. Hines, Director of the Bureau, Dr. Sidney I. Schwab as one of the consultants in neuro-psychiatry and Dr. L. H. Burlingham a consultant in hospital planning and construction. Director Hines called attention to the fact that the Bureau's doctors were now of three classes, those with Civil Service status, those holding commissions in the Public Health Service and the special experts appointed by the Director. He announced that he has invited more than thirty of America's leading medical men to act as expert consultants to the Bureau, se-

lected after correspondence with the leading national medical associations. General Hines stated that he believed it to be of great importance to the Bureau to obtain the services of nationally known medical men and that he felt sure they would accept this opportunity of assisting in the recovery of America's disabled veterans.

YOUNG doctors who have had at least one year's post-graduate experience are being solicited by the Surgeon General of the Army to adopt the service as a career, according to a War Department announcement made public to-day.

The official circular authorizing examinations to be held during the week commencing Monday, July 28, gives the following regarding eligibility:

The applicant must be a male citizen of the United States, a graduate of an acceptable medical school legally authorized to confer the degree of Doctor of Medicine, must have had at least one year's hospital training subsequent to the completion of a four-year course of instruction in such medical school, or, in lieu thereof, have served one year as a medical officer of the United States Army between April 6, 1917, and July 1, 1919, and must be between the ages of 22 6/12 and 31 6/12 years at time of examination.

The necessary blank forms may be obtained at any military station, or direct from the Adjutant General of the Army, Washington, D. C.

DR. A. D. FARBER, St. Louis, has lost his suit against the State Board of Health to prevent that body from obtaining witnesses at his trial on charges of unprofessional conduct filed against him by the St. Louis Health Department. Dr. Farber was charged with having circulated advertising matter that contained misrepresentations concerning cures that could be effected. The State Board of Health sought to compel the appearance of one Dr. Blattner, a former associate of Dr. Farber, through a summons issued by a notary public. Dr. Farber's attorneys applied to the Supreme Court for a writ of prohibition contending that the State Board of Health had no authority to issue a subpoena for an involuntary witness. The Supreme Court held that while the Board of Health did not have the power to issue subpoenas the fact that charges were pending before the Board was sufficient authority for a notary public to issue summons for the appearance of witnesses for taking depositions. The court further held that under the police power of the state the State Board of Health had the authority to investigate charges against physicians and to revoke licenses.

THE second annual meeting of the American Child Health Association will be held in Kansas City, Missouri, October 15, 16 and 17 in the Grand Avenue Temple. Several meetings will be held in conjunction with the Kansas City Clinical Society which will also convene that week.

Dr. Borden S. Veeder, Professor of the Clinical Pediatrics, Washington University, St. Louis, is chairman of the program committee for the meeting. Members of Dr. Veeder's committee are: Miss Sara B. Place, R.N., Superintendent of Infant Welfare Society, Chicago, Ill., Miss Maude A. Brown, Director of Health Education of the Child Health Demonstration, Fargo, N. D., and Dr. S. Josephine Baker, consulting director in maternity and infancy and child hygiene of the Children's Bureau of the United States Department of Labor. Dr. Baker is known as one of the foremost authorities in the nation in the field of child health. Her resignation last spring from the position of director of the Bureau of Child Hygiene of the New York City Department of Health came after twenty years of pioneer work for the welfare of mothers and babies.

Dr. Frank C. Neff of the Kansas City Pediatric Society is local chairman of arrangements for the convention and he is being assisted by a committee of citizens representing local organizations. The meeting in Kansas City will bring together the lay members of the American Child Health Association and an eminent group of physicians, nurses, public health specialists, deans of medical and dental colleges of the leading universities of the country, nationally known educators, nutritionists, biologists and specialists in various scientific fields connected with child health investigation.

THE following have been accepted for new and non-official remedies:

Abbott Laboratories: Procaine-Epinephrine Ampules, 1 Cc. (Abbott).

Armour and Company: Anterior Pituitary Tablets, 2 grains (Armour); Pituitary Tablets, 2 grains (Armour); Parathyroid Tablets, 1/10 grain (Armour).

Lehn and Fink: Sagrotan.

Eli Lilly and Company: Iletin (Insulin—Lilly) U-40.

A. Lumiere Laboratories: Cryogenine.

Mallinckrodt Chemical works: Neoarsphenamine-Mallinckrodt, 0.15 Gm. Ampules; Neoarsphenamine-Mallinckrodt, 0.3 Gm., Ampules; Neoarsphenamine-Mallinckrodt, 0.45 Gm. Ampules; Neoarsphenamine-Mallinckrodt, 0.6 Gm. Ampules; Neoarsphenamine-Mallinckrodt, 0.75 Gm. Ampules; Neoarsphenamine-Mallinckrodt, 0.9 Gm. Ampules; Neoarsphenamine-Mallinckrodt, 1.5 Gm. Ampules.

Parke, Davis and Company: Pituitrin "S"

(Surgical); Ampules Pituitrin "S" (Surgical), 1 Cc.

Welty Company: Deodorized Kerosene—Welty.

Wilson Laboratories: Desiccated Parathyroid Substance—Wilson; Tablets Desiccated Parathyroid Substance—Wilson, 1/20 grain; Tablets Desiccated Parathyroid Substance—Wilson, 1/10 grain.

Parke, Davie and Co.: Apophesine—Apophesine Solution; Apophesine Hypodermic Tablets 0.08 Gm. (1¼ Gr.); Apophesine and Adrenalin Hypodermic Tablets; Apophesine and Adrenalin Hypodermic Tablets (R "B"); Apophesine and Adrenalin Hypodermic Tablets Cylindrical (for pressure anesthesia); Apophesine Ointment; Pituitrin "S" (Surgical).

E. R. Squibb and Sons: Cod-Liver Oil—Squibb.

United States Standard Products Co.: Acne Vaccine; Gonococcus Vaccine; Pertussis (Whooping Cough) Vaccine; Staphylococcus Combined Vaccine; Streptococcus Vaccine; Typhoid Vaccine; Typhoid Paratyphoid Vaccine Combined; Acne Vaccine Combined; Normal Horse Serum; Diphtheria Antitoxin, Refined and Concentrated; Diphtheria Toxin-Antitoxin Mixture (0.1 L+); Diphtheria Toxin for Schick Test and Control; Tetanus Antitoxin.

OBITUARY

HANLEY CLAY CREVELING, M.D.

Dr. Henry C. Creveling, of St. Louis, a graduate of the Missouri Medical College, (now Washington University Medical School), St. Louis, 1895, died at San Luis Potosi, Mexico, March 27, aged 49 years. Dr. Creveling had been in Mexico for about a year on account of failing health. His death was due to an attack of pneumonia.

He was at one time chief of the Nose and Throat Clinic at Washington University Medical School. About sixteen years ago he became a member of the St. Louis Medical Society, where he soon won a host of friends, and his passing is a source of sorrow to the medical profession. He is survived by his widow, a daughter, two brothers and one sister.

HENRY GRAY, M.D.

Dr. Henry Gray, of Prairie Hill, a graduate of Northwestern Medical College, St. Joseph, 1890, and the University of Louisville Medical Department, 1893, died March 16, at Woodland Hospital, Moberly, following a long illness. He was 63 years old.

Dr. Gray had practiced at Prairie Hill nearly

25 years. He was a member of Chariton County Medical Society and served as its vice president in 1922. During his years of affiliation with the medical profession he made many friends and his loss will be deeply felt by all who knew him.

MERRILL NEVILLE SMITH, M.D.

Dr. Merrill N. Smith, of Fayette, a graduate of Washington University Medical School, St. Louis, 1912, died March 16, at the Jewish Hospital, St. Louis, following an operation. He was 40 years old. During the World War Dr. Smith served in the Medical Corps of the U. S. Army. He was a member of Howard County Medical Society.

FRANCIS EDWARD CULLEN, M.D.

Dr. Francis Edward Cullen was born in Cylinder, Iowa, in 1894, and died in Saint Louis on the morning of March 12, 1924, at the age of 29 years.

He received his preliminary education at Dubuque College, Dubuque, Iowa, and was later a student at the Saint Louis University School of Medicine, from which school he graduated in June, 1921.

The following month he was appointed an intern at the St. Louis City Hospital, serving a year as such. He then accepted a position as resident intern at St. Luke's Hospital, leaving there to accept an appointment as senior intern at the St. Louis City Hospital. Upon a vacancy occurring at the St. Louis Isolation Hospital, he was appointed resident physician and superintendent, the position he occupied at the time of his death.

Shortly after assuming his duties at the Isolation Hospital, Doctor Cullen married Miss Mary Higgins of Chicago.

Doctor Cullen's service in his chosen calling was brief, but not too brief to demonstrate that in his death the profession lost a valued member. His life was given to his profession, for he died of a condition contracted from those whose lives he sought to save.

Among those with whom Doctor Cullen was associated he was held in high esteem, both as a physician and as a man, and his sudden death was a shock to all who knew him.

The sympathy of all of his associates goes forth to his bereaved ones, his widow, father, brothers and sister.

G. A. JORDAN.

WILLIAM MASTIN MCGREW, M.D.

Dr. William Mastin McGrew, of Norborne, was born in Ralls County, Missouri, December 9, 1845, and died at Norborne, Missouri, April 9, 1924. Dr. McGrew attended

the Kentucky School of Medicine and was graduated from St. Louis Medical College in 1874. He practiced his profession in Lincoln County, Missouri, until 1879, when he located at Camden, Ray County, and moved to Hardin in 1888. He has practiced in Norborne since 1907. Although suffering from the infirmities of age he continued practice until a few days before his death. Dr. McGrew was a doctor of the old school and an honorable man in both professional and business dealings.

EDWARD HENRY BOUNDS, M. D.

Dr. Edward H. Bounds, of Hannibal, a graduate of Barnes Medical College, 1898 (now Washington University Medical School), died at St. Elizabeth's Hospital, Hannibal, April 5, 1924, aged 51 years.

Dr. Bounds was a member of one of the most prominent families in Marion County. He was born in Millard, Adair County, February 14, 1893. In his early childhood his parents moved to Kirksville, where he attended the state normal school, now known as the Northeast Missouri State Teachers' College. Upon his graduation from the state normal he entered Barnes Medical College, from which he received his medical degree. He began the practice of medicine at Hannibal, where by his pleasing personality, his splendid character and his professional skill he won the love and esteem of all who knew him and became very popular with his fellow practitioners throughout the community in which he lived.

Dr. Bounds was a member of Marion County Medical Society for over fifteen years and a Fellow of the American Medical Association. He served as city physician of Hannibal in 1901-02 and was a member of the Marion County Board of Health from 1902 to 1904. Several fraternal orders were honored by his membership, among them the several branches of the Masonic Lodge as well as the Elks. He was also a member of the Lions Club and the Hannibal Chamber of Commerce. In politics he was a Democrat, always taking an active interest in the affairs of his party.

Surviving Dr. Bounds are his widow, two sons and a step-son. The funeral was held from the family residence with interment at Mount Olivet cemetery with the Masons in charge of the services at the grave.

RICHARD H. SCHMIDT, M. D.

Dr. Richard M. Schmidt, of Hannibal, a graduate of the St. Louis College of Physicians and Surgeons, 1889, died at St. Elizabeth's Hospital, Hannibal, May 22, 1924, aged sixty-two years.

Dr. Schmidt was born in Hannibal in 1861.

After graduation from the public schools there he took up the study of medicine at St. Louis and upon obtaining his medical degree returned to his native city to establish his practice. In 1894 he was made city physician of Hannibal. Being a man of unusual physical endurance he was constantly at his work until forced by illness to abandon his practice. He was a member of the staff of St. Elizabeth's Hospital and by his genial personality in the sick room and home, his capability and his devotion to his work he was held in high esteem by his patients and fellow members of his profession. He was a Fellow of the American Medical Association and had been a member of the Marion County Medical Society for over fifteen years.

Funeral services were conducted at the home by the pastor of the First Christian Church and interment was made in Mount Olive cemetery with the Knights of Pythias in charge of services at the grave.

MISCELLANY

PIERSON W. BANNING—INTERNATIONAL FAKER

Two weeks ago *THE JOURNAL* carried in the Propaganda department a story regarding one Pierson Worrall Banning of Los Angeles and his book "Mental and Spiritual Healing: All Schools and Methods; A Text Book for Physicians and Metaphysicians." Banning had obtained international publicity for his book by means of a story to the effect that his work was such a stupendous literary and scientific accomplishment that its author had been awarded £2,500 by the trustees of the "Benjamin Franklin Fund" of London. Six months previously another piece of publicity had appeared in behalf of the same book. This was a story, purporting to emanate from the "Albany Chamber of Commerce," regarding the bringing back to life of a patient who had died "at the County Hospital at Albany." The resurrection had been accomplished by a woman who had learned the trick by reading Banning's "Mental and Spiritual Healing." This also was described in *THE JOURNAL*.

So well was the "Benjamin Franklin Fund" story worked that the *London Times*, the *British Medical Journal*, the *New York Times*, the *Literary Digest* and some other equally high-grade publications published the matter as news. Banning took immediate advantage of the *New York Times* article by reproducing it, photographically, and sending it out with an elaborate "character sketch" supposed to describe Banning and to have been written by a "Dr. D. Phban."

When the "Albany Chamber of Commerce" story appeared the case was investigated by the Propaganda department and found to be wholly without foundation. At the same time, Banning's antecedents were looked into and the information thus obtained was filed for future use. Then came the present story of the "Benjamin Franklin Fund" award to Banning for his book "Mental and Spiritual Healing." A careful study of the book, coupled with the information already on file regarding Banning, led *THE JOURNAL* to declare that the "Benjamin Franklin

Fund" did not exist and that the alleged award to Banning was a hoax. At the time *THE JOURNAL* published the article it took up the matter with the *New York Times* and presented to Mr. Millar, the Chicago staff correspondent of that paper, all the material it had accumulated on Banning. As a result Mr. Millar got in touch, not only with the *New York Times*, but with the *Los Angeles Times*, urging the former to cable London for more information regarding the alleged "Benjamin Franklin Fund" and the latter to investigate Banning. Cables from London brought out the fact that further investigation failed to disclose any such thing as a "Benjamin Franklin Fund."

The *Los Angeles Times* published *THE JOURNAL*'s article in its issue of March 30 and interviewed Banning regarding the matter; it followed the story up with another article the next day. Banning gave to the *Times* a long and confused explanation. First, he denied any responsibility for the "Albany Chamber of Commerce" narrative of last summer. His story of the "Benjamin Franklin Fund" award was that he had met a stranger in the lobby of a local hotel who had introduced himself as the representative of the trustees of the "Benjamin Franklin Fund." This, Banning said, was the first intimation he had that he had won the \$12,000 award for the publication of his book, "Mental and Spiritual Healing." Banning was also questioned about the publicity matter recently sent broadcast over the name of "Dr. Phban." This carried a flattering character sketch of Dr. Banning and went into details regarding the "Benjamin Franklin Fund" award. The explanation for this was that Dr. Phban had come to him and offered to sell him a thousand copies of "Mental and Spiritual Healing," provided the commissions were satisfactory. Banning told him to go ahead.

While Banning was giving these explanations to the newspaper, the postal authorities were looking into the thing, as the United States mails had been used to promulgate these various stories. The officials also investigated the incidents leading up to the rental of a post office box in Los Angeles supposed to be in the name of the mysterious stranger who notified Banning of the "award."

All this time the Los Angeles newspaper men were gathering evidence against Banning. The man, evidently realizing that he could no longer continue to fool the public, finally confessed and in the *Los Angeles Times* for April 3 there appeared in full Banning's confession of the deceit and falsehood of which he had been guilty. Banning admitted that the Albany story had been concocted by him; that the "Benjamin Franklin Fund" story was a figment of his imagination; that there was no such man as "Dr. Phban" and that he had met no such individual as the alleged representative of the "Benjamin Franklin Fund." It was Banning who had rented a local post office box taken out in the name of the mythical representative of the equally mythical "Fund." The sole excuse given by Banning for the farrago of lies that he has sent out in his effort to sell his worthless book is that he did it as a joke in order to win a bet!

As *THE JOURNAL* has previously stated, Banning's book is shoddy in its typographic make-up and worse than shoddy in the scientific character of its contents. It would have been overpriced at 50 cents; Banning sold it for \$3.50. The perpetrator of this international hoax excuses the fake by saying he did it as a joke. We trust the federal authorities will get from Banning the names of every individual who has bought "Mental and Spiritual Healing" and find out from each purchaser whether he considers the joke worth \$3.50.—*Jour. A. M. A.*, April 12, 1924.

THE FRIENDS OF MEDICAL PROGRESS, INC.— ORGANIZATION OF LOCAL CHAPTERS

Cincinnati has just organized a local chapter of the Friends of Medical Progress, Inc., which, it is hoped, may be the forerunner of many similar chapters. The parent body, organized in Boston in 1923, has paved the way for a lay movement for the defense and promotion of medical research. The public, which chiefly benefits by this organization, should not be slow in identifying themselves with it. The first obstacle to be overcome is the fact that the public knows as yet little or nothing of the Friends of Medical Progress, Inc. Next is the lack of leadership necessary to crystallize action. Here the medical profession, with its special knowledge of the situation and of methods of organization, has a distinct opportunity for public service. Physicians may easily show a few of the leading citizens of the community that animal experimentation is for the sole purpose of prolonging life and of making more comfortable, efficient and happy the lives not only of men, but also of domestic animals; that organized efforts are being made by misguided persons to prevent investigation and to hamper investigators, and that there is need for a countermovement, if the progress of medicine is not to be retarded. Public spirited laymen with such evidence before them may then join in a call for a meeting to organize a chapter of the national body. A chapter, once organized, should promptly become an effective force for good in the community it serves. Physicians may well interest themselves in seeing that the laymen of other communities follow the example of the people of Cincinnati.—*Jour. A.M.A.*, April 12, 1924.

LO, THE POOR CHIROPRACTOR

A wail from Davenport, out where the West begins: B. J. Palmer, the well-known head of the "fountainhead of chiropractic," is frankly worried. And all on account of some chiropractors being sued for malpractice or sent to Sing Sing for manslaughter or some little thing like that. Thus, Mr. Palmer in a recent circular letter sent to the faithful:

"It seems that word has gone out from A. M. A. headquarters to use the charge of manslaughter and malpractice and suits are coming thick and fast from every point of the compass."

The obsession that the American Medical Association is in any way related to these prosecutions is funny or pathetic, according to the point of view. In common with the quacks, the "patent medicine" makers and others who dabble in pseudoscience, Mr. Palmer dresses the American Medical Association in horrific habiliments. He endows this organization with all the legislative, executive and judicial powers of an Eastern potentate, and would have the public believe that it is a fire-breathing ogre stalking the length and breadth of the land seeking what it may devour. B. J. Palmer's latest thesis is that every successful case of malpractice against a chiropractor tends to discredit chiropractic in the eyes of the public; therefore, it behooves the Amalgamated Order of Spine-Pushers to have on tap the best legal defense possible. This may be obtained by joining the Universal Chiropractors Association—B. J. Palmer, Secretary; application fee, \$10; dues and assessments, extra. Mr. Palmer conceives that if every present member of the Universal Chiropractors Association will try to get nonmembers into that organization, it will help greatly. This seems plausible! As he puts it, the faithful should try to get "these boys who are outside the fold to come in, until the storm is over at least" because, as he views it, "the situation is desperate." One gets the impression from Mr. Palmer's letter that charges of manslaughter

and malpractice against chiropractors are so easily proved in court that it is well-nigh hopeless for the chiropractic defendant to employ a local attorney, as such cases are things with which a local lawyer "finds himself unable to cope." Indeed, he says, the national counsel of the Universal Chiropractors Association, "expert as they are in this line, are often unable to win the decision." All of which must make very sad reading to the followers of this cult. There is a silver lining to the cloud. Evidently there begins to dawn on the consciousness of a gullible public a suspicion that impingement of spinal nerves by subluxated vertebrae is not really responsible for smallpox, syphilis, soft corns and barbers' itch. As this skepticism waxes, chiropractic will wane.—*Jour. A. M. A.*, May 17, 1924.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID THE STATE ASSESSMENT FOR ALL
THEIR MEMBERS)

- Chariton County Medical Society, December 13, 1923.
- Camden County Medical Society, January 17, 1924.
- Madison County Medical Society, January 19, 1924.
- Cooper County Medical Society, January 19, 1924.
- Platte County Medical Society, January 22, 1924.
- Morgan County Medical Society, January 23, 1924.
- Cape Girardeau County Medical Society, January 24, 1924.
- Clark County Medical Society, February 11, 1924.
- Dent County Medical Society, March 5, 1924.
- Adair County Medical Society, March 5, 1924.
- Howell County Medical Society, March 11, 1924.
- Taney County Medical Society, March 20, 1924.
- Webster County Medical Society, March 20, 1924.
- Vernon County Medical Society, March 22, 1924.
- Schuyler County Medical Society, March 24, 1924.
- Atchison County Medical Society, March 25, 1924.
- Ray County Medical Society, April 2, 1924.
- Christian County Medical Society, May 1, 1924.
- Pulaski County Medical Society, May 10, 1924.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One Hundred and Third Meeting, March 10, 1924

1. ROENTGENOLOGICAL EXAMINATION OF THE GALL-BLADDER UTILIZING THE INJECTION OF TETRABROMPHENOLPHTHALEIN.—By DR. EVARTS A. GRAHAM AND DR. WARREN H. COLE.

The revolutionary effect on the diagnosis of gastrointestinal conditions which was made possible by the opaque meal has given rise repeatedly to the idea that if by some means an opaque substance could be safely introduced into the gall-bladder so that its contour could be seen with the roentgen ray, the diagnosis of many obscure and doubtful cases of cholecystitis might be made easy and accurate. In

the search for such a substance, tetrachlorphenolphthalein and rose bengal, which are used for the test of liver function and which are excreted almost entirely by the liver, were investigated. Each of the above dyes, as well as tetraiodophenolphthalein, when combined with a metallic ion (e. g. sodium) and injected intravenously, was found to produce roentgen-ray shadows of the gall-bladder. Injection of tetrabromphenolphthalein, however, especially when combined with the heavier metal calcium, was found to produce the most satisfactory shadow and was chosen as the salt to use in the injection of human subjects.

METHOD.

A dose of .25 gram of the dye per kilogram of body weight was found sufficient to cast a shadow of the gall-bladder, when injected intravenously into a rabbit or dog with 0.05 gram of calcium hydroxide per kilogram. A shadow could likewise be obtained by combining the dye with strontium hydroxide.

A dose of .1 gram per kilogram, when injected into a human subject, was found sufficient to cast a shadow. At present 6 grams has been the largest dose used, but 5 grams has been found to produce satisfactory shadows unless the patient be unusually heavy. Five grams of tetrabromphenolphthalein are mixed with .9 gram calcium hydroxide and ground in a mortar with a few cubic centimeters of water. This is dissolved in 330 to 350 cc. of distilled water. The solution is made slightly more stable and soluble by the addition of 1.5 gram calcium lactate which must be dissolved in a few cubic centimeters of hot water and cooled before adding to the above solution, which is then filtered. Sterilization has been brought about by heating it over a flame to 80° to 90° C. and heating in a water bath at 95° to 100° C. for 15 or 20 minutes. If a precipitate forms in the bottom of the receptacle it may be redissolved after decantation of the solution by the addition of a small amount of sterile water or saline. The solution is then cooled, filtered through gauze and given intravenously by the gravity method, similar to an arsphenamine injection. It is more readily tolerated if given slowly. Therefore at least 30 minutes are consumed in its injection. Roentgenograms of the gall-bladder region are taken at intervals of several hours beginning three and one-half hours after the injection. Much more satisfactory shadows are obtained if the patient is injected at 8 or 9 o'clock in the morning after omission of breakfast. Nothing more than a glass of milk is permitted for lunch and a carbohydrate meal is given for dinner at night. The patient is instructed either to lie on his right side or be up and about.

TOXICITY.

The lethal dose for animals is about .35 gram per kilogram. A dose of 5 grams of about .1 gram per kilogram has been found safe for humans and produces satisfactory shadows. At the time of publication of our original article a few weeks ago only one case had suffered any symptoms. Since then several cases have had reactions but none have been in any way alarming. The usual symptoms if present are headache and nausea. Occasionally vomiting and backache occur. At no time has there been any significant change in blood pressure, pulse or respiration, except that which might be produced by nausea or emotion. The amount of reaction varies inversely with the duration of injection. However, all reactions have been transitory and all the patients have felt practically normal the next day. Hydrogen ion concentration of the blood after injection, as determined by Dr. Alfred Goldman, was practically normal.

INTERPRETATION OF ROENTGENOGRAMS.

Obviously, since only 30 or 35 patients have been injected, an effort to establish a definite criterion for diagnosis of gall-bladder lesions would be premature until more cases have been observed. However certain characteristics are observed to be consistent. A normal gall-bladder will begin to cast a shadow three and one-half to five hours after the injection; will show a tendency to change in size; will cast its heaviest shadow at 24 hours and empty in about 48 hours. The eight hour shadow is almost invariably larger than the subsequent shadows. So far, all gall-bladders which failed to show "elasticity or distensibility" at some time during the series, when the injection was followed by the routine given above, have been found to be pathological gall-bladders at operation, or the patients had clinical findings of gall-bladder disease. Pathological gall-bladders do not cast as heavy a shadow as normal ones, since the production of the shadow is dependent upon the concentrative power, which is partially destroyed by disease. Five or six cases failed to cast a shadow. In every such case the cystic duct of these gall-bladders was occluded by a stone, or the gall-bladder was so strikingly small and scarred by disease that production of a shadow was impossible. All case of cholelithiasis corroborated by operation or characteristic history have shown the stones as either negative or positive shadows, but only after the injection of the dye. The size, shape, density of shadow, filling time, emptying time and other characteristics are also important and will undoubtedly be factors in the diagnosis. It is most important, just as in gastro-intestinal examination by roentgen-ray, that a series of plates be obtained. So far, we have been content with 4, 8, 24 and 32 hour plates.

2. SUBCUTANEOUS EMPHYSEMA CAUSED BY AN ANAEROBIC MICROCOCCUS COMPLICATING DIABETES MELLITUS.—By DR. HOWARD H. BELL AND DR. HAROLD C. GAEBE.

Abstract of history of case reported: White male, 58 years old, entered the hospital showing progressive diabetic gangrene of the toes.

The mother died from diabetes and two brothers now have the disease.

Subcutaneous emphysema associated with suppuration developed spontaneously over the right shoulder. A sinus soon formed from which much frothy pus drained. The lesion had the characteristics of gas gangrene.

Cultures showed staphylococcus aureus and an anaerobic gas-producing micrococcus occurring in symbiosis. An anaerobic micrococcus of this description was found repeatedly associated with septic endometritis by Schottmüller and was designated by him as staphylococcus aerogenes.

Death occurred 42 days after the appearance of gas gangrene over the right shoulder from terminal bronchopneumonia.

DISCUSSION.

DR. BELL: I would like to comment on the bacteriological findings in this case. The anaerobic micrococcus occurred in symbiosis with staphylococcus aureus. The lesion was that of gas gangrene. Dr. Gaebel brought me several specimens of pus which in stained films showed only gram positive cocci of the morphology of staphylococcus. Cultures on blood agar plates showed only staphylococcus aureus. Cultures in deep meat media showed gas. There was only one conclusion to be drawn, namely, that there was here associated an anaerobic gas-producing coccus indistinguishable morphologically from staphylo-

coccus aureus. After much difficulty an anaerobic micrococcus of this description was isolated. It was then recognized that this coccus required media especially rich in protein, which explained the difficulty in separating it from staphylococcus aureus by plating methods.

I might add that our knowledge of anaerobic micrococci is very deficient. Isolated cases appear in the literature. I do not know of any one who has collected a series of such organisms for comparative cultural study. I believe that a careful study would without doubt reveal a much wider distribution of such organisms than we now realize.

It is difficult to define the significance of the association of these two organisms in relation to the lesion produced. Certainly gas production was dependent upon the metabolism of the anaerobic micrococcus. *Bacillus coli* has produced gas in tissues of diabetics. The question was raised if gas production in this case was in any way related to hyperglycemia. The anaerobic micrococcus was slow to attack carbohydrates, and then only to a very limited extent; gas production in sugar free media was equal in volume to that in sugar containing media.

3. A CLINICAL STUDY OF DISEASES OF THE CIRCULATION OF THE EXTREMITIES. DESCRIPTION OF A NEW METHOD OF EXAMINATION.—

By DR. BARNEY BROOKS AND DR. FRED A. JOSTES.

There is at the present time no accurate method of estimating the extent of diminution in the circulation of the extremities resulting from disease of the blood vessels. Furthermore, it is often impossible by methods of examination now used to determine if actual circulatory disturbance exists.

The method of study used in this paper is one by which the temperature of the tissues and the changes in temperature of the tissues have been measured. The temperature has been measured by the use of the thermocouple galvanometer method, the thermocouple being mounted in a hypodermic needle.

By introducing the needle into the great toe the temperature change of the tissue was observed upon application and removal of a tourniquet.

From the results obtained in thirty-seven examinations of eighteen individuals it would seem that the study of the temperature changes in the tissues which result from alternate obstruction and release of the obstruction of the arterial circulation give valuable information as to the presence or absence of arterial disease. Obviously the temperature of the distal tissues of a normal extremity will fall if the circulation of blood is completely obstructed and will rise if the obstruction is removed, assuming that the extremity is exposed to ordinary room temperature. In all individuals examined in whom the arteries were presumably normal the temperature of the distal tissues fell during the period that the arterial circulation was obstructed and rose immediately after removal of the obstruction to approximately its former level. In all individuals examined in whom the arteries were known to be obstructed by disease the temperature of the distal tissues fell during the period that the arterial circulation was obstructed but did not begin to rise immediately after release of the obstruction. In all instances the fall in temperature of the distal tissues continued for a period of two to seven minutes after the removal of the obstruction. It would seem, therefore, that the rapidity of the rise of temperature might be an index of the condition of the circulation in tissues in a sense independent of the condition of the main arteries of the extremity. If there is a continued fall of tempera-

ture in the distal tissues after the tourniquet is removed, obstruction of the large arteries exists.

DISCUSSION.

DR. BROOKS: The purpose of this paper is to emphasize the fact that there is at the present time no satisfactory method of determining the exact condition of the circulation in the extremity. The observations which are reported to have led us to believe that the temperature changes in tissues in response to the application and removal of a tourniquet are an index to the condition of the blood supply in the tissues examined. In every case which has been included in this report, the conclusions reached by the application of this method have been verified by actual examination of the arteries. It will be observed that the curve obtained has two independent factors, the period of time elapsing between the removal of the tourniquet and the beginning of the rise in the temperature of the tissues and the rapidity of the rise in temperature after it has once begun. In all instances in which the first factor has been prominent actual obstruction of the large arteries has been present. The significance of the second factor is not yet clear.

DR. EWERHARDT: I would like to know if the needle was ever put in the tissues deeper than 3 cm.

DR. BROOKS: Yes, the temperature reactions in the tissues have been studied at different depths. Obviously the deeper the needle is placed the more slowly the temperature falls when the tourniquet is applied.

DR. M. G. SEELIG: I can see both in the studies of Drs. Graham and Cole and in those of Drs. Brooks and Jostes, infinite possibilities. It is almost impossible to say just how great the potential significance of both of them is going to be. One splendid point is the aid Dr. Brooks and Dr. Jostes have given in regard to the levels at which amputation must be performed. The so-called (and badly called) vasomotor-trophic neuroses are baffling to the surgeon. Sometimes an ulcerative lesion of very insignificant size demands a supramalleolar amputation; in others, a massive toe gangrene requires only a toe amputation. This work of Drs. Brooks and Jostes offers the hope of furnishing us such exact data that we shall know exactly how to proceed surgically in every case. I do not expect in a long time to listen to two papers of such interesting academic findings as well as practical significance as these two.

4. HISTOPATHOLOGICAL CHANGES IN EXCISED TONSILS.—By DR. HOWARD H. BELL.

A lantern slide demonstration (55 slides) was given illustrating the lesions occurring in faucial tonsils.

Tonsils were collected routinely from Washington University Dispensary from patients of all ages showing at the time of tonsillectomy no elevation of temperature. Adjacent sections were stained by hematoxylin and eosin by Gram-Weigert method for bacteria.

The classification of tonsillitis used by Semon and Williams (Allbutt's System of Medicine, Vol. 4, part 2) was adopted, as follows:

Acute Lacunar Tonsillitis. Refers to focal microscopic ulcerations confined to the crypts associated with infiltration of cells characteristic of acute inflammation and fibrin formation.

Acute Parenchymatous or Follicular Tonsillitis. Refers to lesions in the centers of the lymph follicles.

Acute Peritonsillitis or Quinsy. Refers to inflammation of the peritonsillar mucous glands.

Chronic Lacunar Tonsillitis. Refers in general to widely dilated crypts containing masses of bacteria,

showing irregular epithelium and invasion of lymphocytes.

*Fibrosis of Tonsil.
Chronic Peritonsillitis.*

Primary tuberculosis of the tonsil was especially considered. Progressive areas of fibrosis in tonsils showing occasionally a foreign body giant cell was by no means uncommon, insufficient however to justify as a rule the diagnosis of tuberculosis. Tuberculosis of the tonsil is associated with very little caseation.

The tubercle bacillus in such lesions, like in tuberculous cervical lymphadenitis, has been predominately bovine in type.

Pathological change was very common in excised tonsils. Such lesions were apparently borne without marked constitutional reaction. Relation of such lesions to acquired immunity was discussed.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met at Polo, April 17, at 2:00 p. m. The president, Dr. George S. Dowell, not being present, Dr. R. L. Mount took the chair. Those present were: Dr. Tinsley Brown, secretary; Drs. O. N. Thompson, B. F. Carr, M. L. Clint, L. M. Daley, J. E. Gartside, R. L. Mount, T. W. Scanlon, W. S. Shouse. The minutes of the meeting held November 23, 1923, were read and approved.

Dr. M. L. Clint read a very interesting paper on "Lessons from the Cults." The paper excited an extended discussion which was participated in by most of those present. It was voted to refer the paper to the State Association Journal for publication.

Dr. L. M. Daley read a paper on "Acidosis." This was discussed by members and several interesting points were brought out.

Plans for the summer work were discussed and the indications are that the Society is in a good condition as dues of all members are paid for the year. There are sixteen physicians in the Society out of a possible twenty physicians in the county.

The Society will meet in Kingston in May.

TINSLEY BROWN, M.D., *Secretary.*

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society held one of its characteristic meetings at the Major Hotel in Liberty, Thursday evening, April 24, beginning with a sumptuous dinner. Fully thirty-five persons were seated at the table—members, wives and visitors. Of the latter, Dr. and Mrs. W. J. Frick, Dr. and Mrs. Frank J. Hall and son, and Dr. P. T. Bohan of Kansas City were present. Mrs. Hale, wife of Attorney Hale of Liberty, assisted the reception committee in entertaining the lady visitors after the dinner at the beautiful home of Dr. and Mrs. F. H. Matthews, where musical selections and an interesting review of Kate Douglas Wiggin's new book rendered the hours delightful for those present.

The dinner table was tastefully decorated with white and purple lilacs which served to detract our attention from the groaning of the table under its burden of delicious eatables. To call this a Clay County dinner might be sufficient distinction, but when it's a Liberty dinner it challenges the descriptive ability of even a very versatile secretary.

After the preliminary business the scientific program was opened by Dr. P. T. Bohan who spoke on "Nephritis." The doctor gave a very practical and easily remembered classification of the disease in its varied forms and spoke with clarity on the differential diagnosis. His discussion of prognosis and treatment was to the point and duly appreciated by his audience.

Continuing the subject, Dr. Frank J. Hall drew blackboard sketches of the minute anatomy of the kidney, which he supplemented with sections under the high-power microscope. Dr. Hall's talks seldom leave anything to be guessed at. He exhibited many post-mortem specimens illustrating the destructive processes in this set of vital organs and held profound attention during his rapid-fire discussion of the subject. A battery of questions followed the symposium which brought out some highly profitable discussion.

Our society has placed a penalty on delinquency after May first. Several members are still in arrears and our by-laws make duty very plain. Please do not delay until registered notice is sent. Membership in this society is worth many times the state and county dues.

J. J. GAINES, M.D., *Secretary.*

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society met in the dining room of the Country Club house, Cape Girardeau, April 19, in regular session with the following members present: Drs. Yount, Statler, Cunningham, Schulz, Wilson, Porterfield, Howard, Vinyard, Hays, Murphy, Crites, Chostner, Zimmermann, O. L. Seabaugh, D. I. L. Seabaugh, P. R. Williams, Paul Williams, R. P. Dalton, Walker, Hope and Seibert. The following visitors were present: Dr. G. S. Cannon, Fornfelt; Dr. Ashley, Ilmo; Dr. Traubitz, Vanduser; Dr. Roy Frazier, Commerce; Dr. Westcoat, Oran; Drs. Diggs and O'Bannon, New Madrid; Dr. E. K. Statler, Millersville; Dr. E. R. Schoen, Jackson; Drs. Goodykoontz, Patton, and W. A. Schoen, Cape Girardeau, and Dr. J. R. Caulk of St. Louis.

After partaking of a most delicious dinner prepared and served by the wives and daughters of the Cape Girardeau physicians, the meeting was called to order by the president.

A motion carried to extend the courtesies of the society to all visiting physicians. Dr. Zimmermann then introduced Dr. Caulk, the guest of honor, who delivered the address of the evening on "Problems in Urology," which he illustrated by lantern slides. Several times during his interesting and instructive lecture he informed us he was giving us high school instruction but, if he so classed it, many of us thought we belonged in the grades. Dr. Caulk talked in such plain terms and impressive manner that we could not help but gain many valuable lessons. His lecture was discussed by all present and many questions were asked which Dr. Caulk fully explained.

A motion carried that a vote of thanks be extended to Dr. Zimmermann and his associates for the arrangement of the most excellent program and especially to the ladies who served the well-prepared dinner. The president appointed Drs. Hays, Vinyard and Goodykoontz as a committee to visit the ladies and extend to them our thanks for the great part they had in making this such a pleasant evening.

A motion was made and unanimously carried that Dr. Caulk be given a rising vote of thanks for the kindness he showed us by his visit.

All the visiting physicians were warmly welcomed and we trust they will visit us again and all who are eligible become members of our society.

Upon motion the meeting adjourned.

D. G. SEIBERT, M. D., *Secretary.*

DAVISS COUNTY MEDICAL SOCIETY

The Daviess County Medical Society had a very interesting and instructive meeting at Gallatin, May

1, at which time Dr. C. C. Conover, of Kansas City, presented a lecture which was made very plain and instructive by the aid of slides which he had prepared for the occasion. This most wonderful lecture on "The Diseases of the Heart" by the doctor should be heard by every doctor in the state and we would recommend it to the laity as well. What a pity that every doctor who holds membership in the Daviess County Society could not have heard this inspiring and educational discourse. Drs. P. L. Gardner and N. M. Wetzel presented a clinic which was in harmony with the great subject under discussion.

Our society can heartily recommend Dr. Conover to all neighboring societies in this well prepared subject he has so masterfully covered. We all feel very grateful for the opportunity of having him with us and request that he shall come again.

N. M. WETZEL, M. D., Reporter.

JOHNSON COUNTY MEDICAL SOCIETY (Warrensburg Clinic)

The Johnson County Medical Society met in Warrensburg Clinic, Warrensburg, at 1 o'clock Tuesday, April 22. The meeting was called to order by the president, Dr. E. Y. Pare. Those present were: Drs. James I. Anderson, L. J. Schofield, O. B. Hall, Wm. R. Patterson, W. E. Johnson, H. F. Parker, J. W. Bolton, John T. Anderson, T. J. Draper, from Warrensburg; E. Y. Pare, Leeton; Henry Park, Knob Noster, H. O. Daniel, Centerville; W. G. Thompson, George Harris, Edward Andruss, S. A. Murray, Holden. Visitors from Lafayette County were: Drs. R. F. Mills, R. C. Schooley, Odessa; Wm. G. Harwood, Dover; C. T. Ryland, Lexington; W. A. Braecklein, W. E. Koppenbrink, W. E. Webb, Higginsville; Edmund Lissack, Concordia. Visitors from Henry County were: Drs. S. W. Woltzen, F. M. Douglass, Clinton; J. H. Walton, Windsor. Visitors from Cass County were: Drs. M. P. Overholser, Harrisonville; H. Jerard, Pleasant Hill. Visitors from Jackson County were: Drs. Frank C. Neff, Lindsay S. Milne, George E. Knappenburger, Kansas City.

Dr. Frank C. Neff held a clinic on diseases of children. There were a number of children with various diseases to present to the society. The description of the value of the Schick test was made more graphic by the presence of several children who had been inoculated and presented the reaction in various degrees.

Dr. Lindsay S. Milne held a clinic on internal medicine. There were a number of cases presented for examination and diagnosis.

Dr. Walter E. Koppenbrink gave an interesting talk on the use of the X-ray in the treatment of thyroid troubles.

Dr. W. G. Thompson gave an interesting talk on demonstrating the relation of physiotherapy to the general practitioner.

T. J. DRAPER, M. D., Secretary.

NEW MADRID COUNTY MEDICAL SOCIETY

The New Madrid County Medical Society held a meeting Friday, April 25, at 2 p. m. The following were present: Drs. P. M. Mayfield, president, Portageville; J. H. Cochran, vice president, Gideon; Wm. N. O'Bannon, secretary and treasurer, New Madrid; E. E. Jones, censor, Lilbourn; W. L. Diggs, censor, New Madrid; H. A. Killion and H. T. O'Kelley, Portageville; Claude McRaven, Marston; J. D. Fakes, New Madrid; C. S. Blackman and E. J. Ford, Parma; visitors present were Drs. W. E. Yount, Cape Girardeau; J. D. Adams, Lilbourn, and Judge N. Caverno of Canalou, Chairman of the Nursing Committee.

Dr. Wm. N. O'Bannon and Dr. W. L. Diggs were

elected delegate and alternate to attend the State meeting at Springfield May 6, 7, 8.

On motion it was ordered that the secretary draw up resolutions of respect for our late member, Dr. J. B. Bell, of Morehouse, who died December 2, 1923, a copy of which is to be spread on the minutes, one published in the county papers and one sent to Mrs. Flavia Bell, the doctor's widow.

On motion it was decided that the next meeting of the society would be held at Portageville, June 4, 1924, at which time the election of officers will be held.

Meeting of June 4

The New Madrid County Medical Society met Wednesday evening, June 4, at Portageville, with the following doctors present: From Lilbourn, Drs. Jones, Adams and Wiley; from Marston, Dr. McRaven; from Morehouse, Drs. Dunaway and Pease; from Gideon, Dr. Cochran; from Parma, Drs. Ford and Blackman; from New Madrid, Dr. O'Bannon; and from Portageville, Drs. Mayfield, O'Kelley, Bess and Killion.

The meeting was called to order by Dr. P. M. Mayfield, president of the society. A communication was read from Dr. Ross Hopkins of the State Board of Health, who was unable to attend this meeting. Dr. Dunaway, of Morehouse, made a report on a case and it was freely discussed by all the doctors present. Dr. Cochran of Gideon also reported a case and caused a very interesting discussion. Judge Hoke, one of the County Judges, was a guest of the meeting and made a very nice talk to the doctors of the county, explaining the county's views and also his views in regard to the health work and able assistance being given by the doctors in the county, and promised his full co-operation in this matter.

The proposition of the doctors of the county establishing an X-ray laboratory at the county seat was thoroughly discussed and upon a motion it was unanimously agreed to make steps to carry out this plan in the near future. A committee of two was appointed to meet with Dr. O'Bannon to outline the plans and to submit them to the Society at the next meeting which was voted to be held in Morehouse, Wednesday evening, July 9. The society also voted to have a nose and throat clinic during the month of July and another baby clinic during the month of August.

The election of officers was held and the following were elected for the ensuing years: Dr. P. M. Mayfield, of Portageville, was re-elected president; Dr. C. S. Blackman, of Parma, was elected vice-president; and Dr. O'Bannon, of New Madrid, was elected secretary and treasurer. At the conclusion of the meeting refreshments were served by the doctors of Portageville, consisting of roast pork and roast beef sandwiches and all kinds of soft drinks. This was the largest medical meeting ever held in New Madrid County and certainly is gratifying to see the interest now being manifested by the doctors in this county.

W. N. O'BANNON, M.D.,
Secretary and Treasurer.

BOOK REVIEWS

NUTRITION AND CLINICAL DIETETICS. By Herbert S. Carter, M. A., M. D., Assistant Clinical Professor of Medicine, Columbia University, New York, Paul E. Howe, M. A., Ph. D., Associate Rockefeller Institute for Medical Research, Howard H. Mason, A. B., M. D., Associate in Diseases of Children, Columbia University, New York, etc. Third edition, thoroughly revised. Philadelphia and New York: Lea & Febiger, 1923. Price \$7.50.

This is a third edition of the text which your reviewer was privileged to review in its first edition.

At that time he commented favorably on its general plan and arrangement.

The third edition seems to consider all the problems that have arisen within the last few years and has treated them in the manner and with the sangfroid of a spectator rather than as an enthusiastic supporter of any theory of dietetics. This, of course, has its advantages as well as its disadvantages. It is advantageous in that the reader is left to evaluate for himself the different theories. It is disadvantageous in that there is a lack of detail which would be of great help to anyone who wished to follow up any of the theories presented.

A text on nutrition is almost necessarily one on physiology and it must have been something of a temptation to the authors to branch over into a discussion of the effect of proteins and other substances introduced by the mouth as contrasted with the effect when introduced parenterally. In the same way one would welcome a paragraph on the value of the introduction of calcium through the various channels and what must be the standard by which one would estimate the presence of a sufficient quantity of calcium in the tissues. In other words, the science of nutrition necessitates a study of kindred sciences. The result is that the theories of the art today are merely legends tomorrow, and such a book as this must be rewritten every three years to keep it useful.

G. H. H.

OPERATIVE SURGERY. Covering the operative technic involved in the operations of general and special surgery. By Warren Stone Bickham, M. D., F. A. C. S. Former surgeon in charge of general surgery, Manhattan State Hospital, New York. Former visiting surgeon to charity and to Touro Hospitals, New Orleans. In six octavo volumes totaling approximately 5,400 pages, with 6,378 illustrations, mostly original and separate desk index volume. Now ready. Volume 1 containing 850 pages with 921 illustrations. Volume 2, containing 877 pages with 1,008 illustrations. Volume 3, containing 1,001 pages, with 1,249 illustrations. Philadelphia and London. W. B. Saunders Company. 1924. Cloth, \$10.00 per volume. Sold by subscription only. Index Volume Free.

Volume 1, part 1, of this new system of operative surgery treats in detail of the preparation of the patient for operation, sterilization, operative room technic, anesthesia and post operative care. Part 2 is well illustrated by cuts and drawings of all methods of skin grafting, plastic surgery, treatment of deformities, tissue and organ transplantations, amputations and disarticulations and resection of bones and joints. These subjects are discussed at length and methods are described giving at times a review of the surgical anatomy. The chapter on amputation and disarticulation is especially well presented and extensively illustrated. The chapter on artificial limbs is well discussed and illustrated. The volume is thorough and complete in every detail.

Volume 2 discusses for the first two hundred pages blood vessel surgery and illustrates numerous methods of vessel suturing. This chapter, including blood transfusion, is instructive and excellent for reference work. Lymphatic surgery, malignant and infective growths are only briefly referred to, the cautery knife being advocated.

The short chapter on surgery of nerves, plexuses and ganglia could well have been included under neurological surgery proper. These, however, are well treated and are illustrated by excellent drawings and cuts. The subjects of bones, joints, tendons and muscles are ably discussed and illustrated. The treatise upon the skull, brain and spinal cord is quite thorough and complete for the space allowed.

The chapter on cerebral localization is well written and comprehensive. The methods of approach and surgical technic are fully described for the brain, cerebellum and spinal cord lesions are most instructive and clear to the surgeon.

Volume 3 is restricted to discussion of the surgery of the eye, ear, nose, throat, neck, breast, pleura and lungs, with a good chapter on plastic surgery of the nose, lip and face. These chapters are well illustrated, clear and instructive. The chapter on the amputation of the breast is complete and well written. The surgical anatomy of the parts under discussion is frequently reviewed throughout the system.

The work is excellent for teaching and the surgeon will find it a valuable addition to his library.

W. J. F.

A TREATISE ON ORTHOPEDIC SURGERY. By Royal Whitman, M. D., M. R. C. S., F. A. C. S., Surgeon to the Hospital for Ruptured and Crippled; Consulting Orthopedic Surgeon to the Hospital of St. John's Guild, to St. Agnes' Hospital for Crippled Children, the New York State Board of Health, etc. Seventh edition, thoroughly revised. Illustrated with 877 engravings. Philadelphia and New York: Lea & Febiger, 1923. Price, \$9.00.

From its first appearance, Whitman's Treatise has been looked upon as the standard work on orthopedic surgery in America. It has achieved this position because of the clean cut way in which this broad and intricate subject is presented and the masterly manner in which the author has handled his material. In the seventh edition just published the previous method of presenting the subject has been adhered to and the book brought thoroughly up to date. Most of the major subjects are treated in a thorough manner, the presentation of each being built up logically through etiology, symptomatology and treatment. Numerous drawings and photographs illustrate the cases in a most satisfactory manner.

While appreciating the difficulties of thoroughly considering all the important subjects of this wide specialty in a single volume, still it is felt that some have been given too little consideration. Postural defects in children, which are considered of extreme importance, are not mentioned. The article on acute osteomyelitis is very inadequate throughout. The same may be said of the manner in which tumors of the bone, benign and malignant, are considered. In discussing Volkman's ischemic paralysis no mention is made of the important part played by nerve injuries in the etiology of this condition. In the treatment of cerebral spastic paralysis, the Stoffel operation is dismissed as of very little importance, whereas it is being used more and more each year.

The new chapter on collateral orthopedic surgery is excellent. Much valuable and useful information on the subjects of fractures, nerve injuries and amputations is given in the ninety pages allotted to it.

The book on the whole is deserving of generous praise and can be heartily recommended as a safe and very helpful guide for those who are seeking information or instructions on orthopedic subjects.

F. D. D.

PHYSICS AND CHEMISTRY FOR NURSES. Lippincott's Nursing Manuals. By A. R. Bliss, Jr., A.M., Ph.M.D., M.D., Atlanta; and A. A. Olive, A.B., A.M., Ph.Ch., Ph.M.D., Birmingham. Third edition thoroughly revised and rewritten. Philadelphia and London: J. B. Lippincott Company. 1923.

This is a most excellent monograph for the purpose for which it is intended, namely, for nurses in training. It is concise, yet sufficiently detailed to give a good working knowledge of physics and chemistry. We can heartily recommend it to student as well as graduate nurses.

J. J. L.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

Volume XXI

ST. LOUIS, MO., JULY, 1924.

NUMBER 7

E. J. GOODWIN, M. D., EDITOR
901 Missouri Theatre Building, St. Louis, Mo.

PUBLICATION COMMITTEE { W. H. BREUER, M. D., Chairman
C. B. FRANCISCO, M. D.
M. A. BLISS, M. D.

ORIGINAL ARTICLES

THE VICTORIES OF MEDICINE*

President's Address

G. WILSE ROBINSON, M.D.

KANSAS CITY, MO.

I have the honor of appearing before you this evening as a representative of organized medicine. I assure you that I am proud to be its representative and proud of my affiliations. Some members of society consider organized medicine a criminal organization, a vicious monopoly, seeking whom it may to destroy. We have been accused of many crimes; some believe or pretend to believe that we devote the greater part of our time in attempting to strangle competition. We have been accused of interfering with the liberties of the people; it is said of us that we object to anyone engaging in the practice of medicine who has not properly qualified himself or herself to diagnose and treat the sick. We have been indicted, tried and found guilty of fostering laws which prevent those having contagious and infectious diseases of going where they please or associating with whom they wish and thereby transmitting the diseases from which they are suffering to the well. To most of these indictments we gladly plead guilty but at no time have we undertaken to strangle capable and honest competition.

The history of organized medicine reads like a romance, the heroes of organized medicine are legion, the victories of organized medicine have been more productive of good than have been the victories of all the armies participating in all the battles of history, the victories of organized medicine have made possible the victories of armies, the victories of organized medicine have greatly increased the longevity of men. The sick man is no longer an efficient man. By destroying plagues and teaching man how to remain well, organized medicine has added much to the efficiency of humanity and thus made possible the industrial and commercial victories otherwise impossible.

*Read at the 67th annual meeting Missouri State Medical Association, Springfield, May 6, 7, 8, 1924.

The influence of these victories is felt in every department of human endeavor. A few striking examples will suffice by way of illustration. You are more or less familiar with the history of the Panama Canal, and yet I do not believe that we can too frequently review it. When an attempt was made in 1849 to construct a railway across the Isthmus of Panama so many laborers perished from disease that it became a proverbial saying that every railway tie represented the dead body of a workman. The French sought from 1881 to 1892 to build an Isthmian Canal. In five years they lost 11/16 of their working force, 1/3 of them French subjects; out of 24 Sisters of Charity engaged in nursing in the Ancon Hospital 20 died of yellow fever; of 17 engineers who came on one steamer 16 died. The French gave up the fight. In 1904 Colonel Gorgas, a member of organized medicine, took charge of the sanitary policing of the Canal Zone and found conditions little changed, but within a single year he had so transformed them as to virtually banish yellow fever, no single case of which has occurred in the Canal Zone since 1905. As contrasted with the appalling mortality of the workmen under the French regime it is sufficient to note that in the year 1909 the annual death rate per thousand of 11,662 white employes was 6.43 from disease, and 3.43 from violence, total 9.86 per thousand. Of Americans, of 8,386 including employes and their families, the death rate per thousand was—from disease 4.05, from violence 2.27, total 6.32. Within five years one of the most unhealthy spots on earth was converted into one of the healthiest, as this low death rate from disease can scarcely be duplicated in any community of the most healthful regions in the world. The average annual death rate in the United States in the same period was 17 per thousand. These remarkable results were achieved through the rigid application of preventive measures based upon recently acquired knowledge as to the causation of disease. Four diseases were responsible for the unhealthfulness of the Canal Zone, namely, yellow fever, malaria, typhoid fever and the plague. Members of organized medicine discovered that malaria and yellow

fever were transmitted from the sick to the well by two different varieties of mosquito; extermination of the mosquitos stopped the spread of these two very deadly diseases.

Organized medicine discovered that the rat transmits the black plague; destruction of the rat checked the spread of this disease. Organized medicine also discovered that typhoid fever is spread through the water and food supply. At the beginning of this present century a representative of organized medicine discovered that typhoid fever can be prevented by inoculation with an anti-typhoid vaccine. That this anti-typhoid vaccine is effective, I believe will be admitted by the most prejudiced and skeptical. During the Spanish-American War one-sixth of the entire command of our troops in Cuba were ill with typhoid fever, many dying. The scourge also decimated our concentration camps in this country. During the World War all of our troops were inoculated with anti-typhoid vaccine and typhoid fever was practically unknown both in the camps in this country and in the expeditionary forces over seas. These are a few of the victories of organized medicine which have made possible the winning of wars and the promotion of industrial and commercial enterprises of great magnitude.

The warfare of organized medicine against cholera, plague, yellow fever and smallpox has been so successful that they no longer menace the life and health of millions but have been confined to a few remote parts of the earth where their actual extinction is possible. Typhoid fever, which a few years ago took an annual toll of 20,000 lives of young men and women in our own country, has been defeated and will within a short period of time be conquered.

Any condition that disables men and women and lessens their efficiency, making them a drag on the wheels of commerce and industry, is worthy of our consideration and attention. The greatest foe of civilization today is nervousness and allied disorders. These conditions are responsible for more disabilities among human beings than any other.

Our war experiences were very illuminating. More than 72,000 men were rejected for mental and nervous diseases from the draft army and many thousands who were certified and accepted were found after being inducted into the army absolutely unfit for any kind of military duty. I think many draft boards selected the worse material from a mental and nervous standpoint that came before them from which to fill their quota, thinking perhaps that the mentally deficient and others so disabled from various mental and nervous disorders that they were of no particular value to the community in which they lived, could be

molded into good military men or at least if they did not return their families and their community would profit by their loss. I personally saw many who were sent overseas who were so feeble-minded that if taken into action their comrades were in much greater danger from their gunfire than the enemy. I had six of this class return from the front to the base hospital at one time from a Texas outfit all coming from the same community originally. The British report showed that twenty per cent. of their discharges for disability during the war were for functional nervous diseases. In our own army ten per cent. of the soldiers evacuated during battle were found to be unable to carry on longer because of hysteria and other functional nervous disorders. It is now more than five years after the armistice was signed and one-third of all the disabled ex-service men hospitalized in the United States are classed as neuropsychiatric patients. There are other tens of thousands not hospitalized who are totally or partially disabled from a great variety of nervous disorders. The functional neuroses and neuropsychoses although popularly designated as shell shock have an analogy among the civilian population and are responsible for an inconceivable amount of disability, inefficiency, unhappiness and for many business failures and suicides. The neuropsychoses are closely allied to frank insanity. Some idea of the magnitude of the mental problem can be gleaned from the following figures: Patients in hospitals for the insane in the United States almost equal those in all other hospitals combined. In some states one out of twenty of all people who die in adult life die in a hospital for the insane. There are more patients classed as insane in the public institutions of the country than there are students in colleges and universities.

We have been told repeatedly during the past several years that nervousness, insanity and allied disorders were increasing in our country at an alarmingly rapid rate. As a class we have paid little more attention to the statement than we have to the statement by scientists and pseudo-scientists that within a few thousand years the fuel supply of the earth would be exhausted, the heat of the sun would be used up and our earth would be a solid mass of ice. Some of us have perhaps replied to the statement that nervousness and insanity were increasing by "yes and so is the population." "We have always had such disabling conditions with us, perhaps always shall."

It is estimated by those conversant with the subject that if the rate of increase of insanity and disabling nervous disorders throughout our country continues as at the present time until the end of the present century it will be impossible for those who remain well to support

those who are so disabled by mental and nervous disorders that they are unable to follow a gainful vocation.

Some well informed alienists have gone so far as to state that if the present rate of increase of insanity in the United States and Canada continues for the next two hundred years in most of the communities there will not be a sane person left. A few of these statements perhaps are overdrawn, but we cannot escape the fact that there is an alarming rate of increase nor the further fact that the breeding strain of our population has greatly deteriorated, so much so that the expectation of normal healthy children in any family is greatly lessened. The mentally defective must not be permitted to continue to propagate and thereby multiply their kind.—Every mentally defective child should be made a ward of the state. It should be the state's business to prevent such children from developing into criminals. The law which says "the mentally deficient cannot be parents of normally mental children" is an unvarying law, therefore, measures should be taken by the state to prevent such children from becoming parents. Children who early manifest an atypical personality should also be carefully supervised. The abnormally irritable, sensitive child, the child who is of the seclusive shut-in type of personality cannot safely be educated along abstract lines and should not be required to compete with normal children in school work; they can, however, be trained as mechanics, farmers, etc., and be developed into good self-supporting citizens. Special schools have been established for the education of mentally deficient and slow children, but I believe the case of the atypical child is of much greater importance. Special courses of education and training should be provided for them. They cannot adjust themselves to meet difficult and disagreeable situations in school life, business or professional life when brought into direct and equal competition with their more normal fellows, and the inevitable result in many cases is for them to develop a defensive wish-fulfilling neurosis or psychosis in which they escape the painful and disagreeable realities of life by the production of an autistic or fantastic state. To every individual is primarily given a definite store of reserve nerve energy. The amount given widely varies with the individual. We need reserve nerve energy for the stress and strain of our daily life and in order to meet emergencies. During our period of activity the consumption of energy is greater than the production. During our period of rest the production should be greater than the consumption, therefore our periods of rest should alternate with our periods of activity and should be of sufficient duration and intensity for the balance of our

reserve to be restored and maintained at a normal level. Unless this level be maintained exhausting and disabling neurosis or psychosis are almost sure to develop. External and internal forces constantly tend to consume and exhaust our store of reserve energy. The business of living has become so intense the brain of every member of the human herd must daily register so many new impressions from such a great variety of sources that there is an ever increasing danger of an exhaustion of our reserve store of energy.

Never before in the history of man has the pathway of every individual from the cradle to the grave been threatened by such an assortment of brigands who seek to rob him of his nervous and mental stability. Where greater dangers threaten the maximum of protection should be given. The best protection against these dangers is for all the students in our schools to get the essentials of an education during their school life. Dr. Stewart Paton says these essentials are "(1) a knowledge of actual life, (2) a definite impelling interest in some special phase of life, (3) information gained from actual experience of a person's own adjusting capacity and limitations and (4) the cultivation of the emotional attitudes and habits required for recognizing and facing reality."

We point with pride to the advancement in our educational system but it is more difficult for the students in our high schools, colleges and universities to get the essentials of an education today than it was a century ago. Students should be taught to know themselves, adjust their lives intelligently, to meet the demands of the immediate circumstances. Our educational system is failing in preparing the students for actual life. Much attention is given to "WHAT" the student thinks, but little as to "HOW" he thinks. The number of graduates of our high schools, colleges and universities who are becoming inmates of sanitariums, hospitals for the insane, almshouses, reformatories and prisons, or who are developing the peculiar emotional unrest of the psychoneurotic should convince educational boards that something is wrong with the system and that perhaps there may be some connection between the educational system and the nervous and mental disabilities of these disabled graduates. The most practical result of a proper education is to prepare the student to meet successfully the realities of life, therefore, if a considerable number of those who have finished a college education and training are so unsuccessful in meeting the realities of life that they must be treated in hospitals, reformatories or prisons there are certainly gross defects in the educational system.

Dr. Paton says, "We must learn to see the

educational problem in its broad relation to actual life and realize that the failure either to understand what the essentials of an education are, or to give the student an opportunity to acquire these, has resulted in their being more patients in hospitals for the insane than there are students in colleges and universities, and is adding steadily to the number of independents unable to adjust their lives satisfactorily, while increasing the incidence of those who resort to criminal methods in their vain efforts to find some kind of an adjustment in living.

The success of every individual depends upon to a considerable degree his ability to adjust his life to reality, therefore assistance should be given early in life to the cultivation of a capacity to recognize reality as well as in the art of gauging the adjusting capacity and acquiring the emotional and mental attitude requisite for meeting the actual conditions of life. A very common mental factor in the production of the neuroses and psychoses is the loss of the power of attentive control. In our scheme of school education attention is of paramount importance and the child who finishes his school work without having an adequate degree of attentive control had just as well stayed at home and will perhaps later in life have to receive a course of re-education from the magistrate or the physician.

Dr. H. C. Miller states, "that the attentive control is the one aim of all true education, but our educational system is dealing with it less successfully now than previously and when the failure of attentive control manifests itself in later life, as in ill health, it falls to the physician to correct it." The number of persons who manifest a loss of attentive control is increasing at an alarming rate. The symptoms are much the same in all. The patient is a victim of indecision, he cannot make up his mind on any subject, he has lost the power of mental concentration, he has lost his will-power and in many instances his mind seems bound with unbreakable chains to one particular idea. Those who actually pass that imaginary border line between sanity and insanity likewise have the morbid fears and obsessions, imperative ideas, etc., which are so distracting that they cannot direct their ideas and cannot control their attention. Loss of attentive control is responsible for many business failures. Ideas of ill health may dominate the thought and the loss of attentive control result.

Huxley defines the aim of all true education as follows:

"To enable us to do the things we ought to do, when we ought to do them, whether we like them or not." I would supplement that definition by saying that the aim of all true

education is also to enable us to think the thoughts we ought to think when we ought to think them, whether we like them or not.

Musterberg says, "Mere learning is no substitute for training of mental energy. Habitual rushing to new and ever new impressions may easily interfere with the development of persistence in character. Whether the will is allowed to start on one thing and then to be pushed to something else or whether it is forced to hold on against all difficulties makes the difference which counts for life. An education which spoils the mind and never demands real effort, which simply follows the liking and interests, leaves the adolescent individual in a flabby and ineffective state. On the other hand, the training of attentive control insures strength in any sphere, even though the gift be small. The mind that has learned to resist distractions can hold its own in any field."

Aiken says, "I would define education, moral and intellectual, as attention." All classes of temperament and persons do not require for the execution of their work the same amount of attentive control.

Fear is the most common symptom in medicine. Many students are so disabled through their fear of failure that they cannot continue with their school work. The fear of heart disease, cancer, syphilis, insanity and dying completely disable a vast number of individuals and I regret to say that the medical profession is responsible for a considerable number of these fears. Some doctors through ignorance or dishonesty suggest to every patient who comes to them with any little tumor, pimple or blackhead of the skin the possibility of cancer and insist upon a surgical operation, the use of radium or the X-ray, thus implanting in the patient's mind the fear of cancer which may later cause a total and even permanent disability. The doctor who tells the nervous patient having a slight irregularity or palpitation of the heart that he or she has heart disease, thereby stirring up a fear of heart disease stimulating the concentration of the patient's attention upon the heart, causes in many cases a disability which is very, very difficult of removal. All physicians should be psychologists. Every physician should recognize the fact that each and every patient who consults him is to some degree a mental patient and should be studied and treated as a personality and not as a case. The profession should cease to make a mystery of mental healing, psycho-analysis and suggestive therapeutics. We should as a profession recognize the fact that a man or woman may be grossly disabled by neuroses or neuropsychoses and still manifest no objective symptoms. It is an unfortunate circumstance that many very good physi-

cians when consulted by a patient suffering from a functional nervous disorder will after their examination and finding no pathology tell the patient, "now there is nothing at all the matter with you, you imagine all these things, just go away and forget it, and don't consult any more doctors." Such advice very commonly drives the patient to consult quacks and incompetent charlatans. The physician should be honest with the patient, his fellow practitioner and himself. If he feels himself incompetent to handle successfully a particular kind of case he should not hesitate to tell the patient and so advise the consultation of someone whose experience in treating such conditions is greater than his own. Very few of us can be general specialists although some try very hard to convince themselves and the public that they are. Every physician must to some degree practice mental healing. Mental healing is not a modern thing, it is as ancient as the history of man. In the oldest civilization with which we are acquainted, that of Egypt, it had a prominent place hundreds of years before the Christian Era. In ancient Greece and Rome it was practiced. We as physicians should pay more attention to the personality and the mental reaction and state of all our patients, also the influence of the mental state upon the physical condition. While we believe it is the duty of the educator to give to the child in his early life the essentials of an education it is the duty of the physician to properly qualify himself to act as the conservator of the mental health of his patients.

Sir Andrew Clark says that "it is impossible for us to deal knowingly and wisely with various disorders of the body without distinctly recognizing the agency of states and conditions of mind, often in producing and always in modifying them."

Dr. Maudsley says perhaps we do not as physicians consider sufficiently the influence of mental states in the production of disease, their importance as symptoms or take all the advantages which we might get from them in our effort to cure disease. Quackery seems to have got hold of a truth which legitimate medicine fails to appreciate."

Dr. Robertson says, "While the influence of the mind over the body is universally recognized, its employment as a therapeutic agent is purposely used by but a few of the regular ranks of the profession."

Sir S. Wilks says, "The doctor soon finds that in treating his patients the practice of medicine is not only one of physic, but of psychology, and that the effect of his drugs depends as much upon the constitution of the patient's mind as that of his body."

Dr. Shoemaker says, "Psychoparesism plays a most important part in the ordinary every-

day practice of medicine. The influence of the mind on the bodily functions is so great that every experienced, intelligent physician is glad to admit so potent an auxiliary. A careful analysis and study of practically all cases of neuroses and neuropsychoses will show three different sets of disturbances: (1) There will be an exaggerated condition of self-consciousness, a feeling of irritability, easy exhaustibility, obsessions, compulsions, a sense of inadequacy and of morbid fears. (2) There will usually be found various functional disturbances of the alimentary tract, the skin, the vascular system, etc. (3) There will be found a disturbance of what should be the normal functioning of the chief glands of internal secretion, the pituitary, adrenals, thyroid, gonads. All of these various abnormal conditions must be taken into consideration in the investigation of every case. During the past several years there has arisen a vast number and variety of so-called cults, schools and individuals who advocate a type or auto-suggestion that they insist has such complete and perfect curative powers that no other form of therapy is necessary but by the repeated assertion to themselves that their mental or physical symptoms are passing away, or that they never really existed; they either ignore physical causes of disability or deny their existence. The medical profession has passively at least contributed to the popularity of these cults through their failure to properly qualify themselves in the science of psychology and either through their ignorance of or their ignoring of the mental factor in medicine. The importance of every physician qualifying himself in the science of psychology in my opinion cannot be overestimated.

McDougal says, "that psychology is the essential common foundation on which all social sciences, physics, economics, political science, philosophy, history, sociology, cultural, anthropology and the more special social sciences, such as the science of religion, of education and law must be built up. Accepting McDougal's dictum we find that psychology touches every department of human endeavor. Physicians must know psychology in order to deal successfully with the mental factor in the disease. Too much mystery has been made of the so-called psycho-analysis and suggestive therapeutics. Psycho-analysis is simply an investigation into the WHAT, HOW and WHY the patient is thinking, an investigation of his fear complexes some of which, temporarily at least, are above and some below the threshold of consciousness. Suggestive therapeutics is common sense and explanation by showing the patient the way out of the maze of doubts and fears into which he is wandering unable to emerge without help, helping him to adjust

himself to the realities of life, changing his philosophy of life so that he can meet realities successfully, helping him to overcome his bad mental habits. Life is a habit, a succession of actions becomes more or less automatic, habits of any kind are the result of actions of the same kind. Plutarch says that character is long standing habit. I find that the chief worries of life arise from the foolish habit of looking forward and backward. There is peace for the anxious and worried man if he looks neither backward to the past nor forward to the future. Carlyle says our main business is to see not what lies dimly in the distance but to do what lies clearly at hand. We should all acquire the habit of living, as Sir William Osler has said, "in day-tight compartments." The chief factors of safety of the great ocean liners are the fore and aft water-tight compartments. By touching a button on the bridge the great iron bulkhead doors can be closed, shutting out all communication between the various compartments. The safety of our today depends to a very great degree upon our ability to touch a button and hear at every level of our life the aft iron doors closing and shutting out the past, the dead yesterdays, to touch another and shut out with the forward bulkhead doors the future, the unknown tomorrows. It is not easy to disregard the past, it haunts us like a shadow, we should learn to bury deep in the oblivion of each night the joys and sorrows, the disappointments, mistakes sins and petty annoyances, the real and fancied slights of the day. Man can have no greater handicap than that of carrying the habit of retro and introspection, letting the mistakes of yesterday paralyze the efforts of today, hugging the worries of the past to his destruction, allowing the worm regret to canker the very heart of his life. The future should be shut off as tightly as the past. The tomorrow has no certainty except through today. The uncertainty of tomorrow is a proverb, yet we may all have the secret. The future is today, there is no tomorrow. The day of Man's salvation is now—The life of the present, of today, lived intensively, earnestly and sincerely with no forward looking thought is your only insurance for the future. Make the limit of your horizon a twenty-four hour circle. Shut tightly and keep closed the great fore and aft bulkheads of your life and constantly cultivate the habit of a life of day-tight compartments.

937 Rialto Building.

SUBDIAPHRAGMATIC ABSCESS.—Two cases are reported by Fred M. Hodges, Richmond, Va. (*Journal A. M. A.*, April 14, 1923). In one case the abscess was secondary to an acute purulent cholecystitis, for which the patient had been operated on, and in the second case the abscess was secondary to a wound.

THE FUTURE OF MEDICINE—AN IDEAL TO BE SOUGHT*

FREDERICK C. WARNSHUIS, M.D.,

GRAND RAPIDS, MICH.

I would be remiss indeed and grievously at fault with my own sentiments did I fail to convey, in so far as words can convey, my sincere appreciation for the honor that you confer in inviting me to be present at this your annual meeting, and for giving me the privilege of addressing you.

In responding to the very courteous invitation that was extended by your efficient Secretary, Doctor Goodwin, I would again be remiss did I not congratulate you and your Association on the fact that you have such a capable individual as your executive secretary and editor. It has been my privilege to know him over a period of some fifteen years, to observe his ability, to perceive his judgment and to recognize his keen, straight thinking on medical and organizational problems. He has gained for your Association and for himself the good opinion and respect of all those who are earnestly concerned in national and state medical activities. I voice the hope that his services may long continue to be available in the years that are before us and that through his executive activities your Association may continue to hold the pre-eminent position that characterizes it today.

I am sure that I convey the sentiments of the American Medical Association when I repeat the greetings that have just been extended to you by our President-Elect, Doctor Pusey. I am likewise commissioned to tender to you the fraternal greetings, good wishes and assurances of esteem from the members of the Michigan State Medical Society, of which I have been permitted to be Secretary-Editor for the past fifteen years.

I recognize full well that my presence here is not due to any personal attainment or ability, but rather because through the suffrage of the members of the House of Delegates of the American Medical Association I have been unduly honored in being permitted to serve for three years as its Speaker. It is in that capacity, then, that I now address you and under your friendship that I seek shelter this evening.

The story is told, and is somewhat apropos, of two Irishmen, two Scotchmen and two Englishmen, who became stranded upon an island after being shipwrecked. The first day the two Irishmen engaged in a fight. The second day the two Scotchmen organized a Caledonian Society. The third day the two Englishmen were still standing around waiting to be introduced to each other.

*Read before the sixty-seventh annual meeting Missouri State Medical Association, Springfield, May 6, 7, 8, 1924.

That seems to be our situation today. We, as medical men, are still standing around waiting to be introduced to each other and to the problems that surround us, for these past fifty years. And while we shift from foot to foot we wonder and inquire, oftentimes in amazement, as to what is wrong with us and with the public.

I want to quote to you from Conway.

"To a human being his ideal represents his individual existence. One life we each have, which is merely hereditary. We receive it from our ancestors, we share it with others; it is common property. There is another life which is our own. There each stands in the presence of his own Sinai, receives the Tables of Law of his individual life. To him there comes a Decalogue of private interpretation and the voice commands—'See that thou do all things after the pattern thou didst see on the Mount!' So indeed must he work—if the world is to be better by a feather's weight for his life in it:—so must he build, quarrying his hereditary nature, polishing it for his individual structure. Nor shall he pause to ask whether the edifice is to be completed and adorned, and labor give way to happiness. He cannot reach the great end because there is no end; the scale is infinite; so have the poets said who reached the seeming summit, only to behold a higher height rising before them evermore. Let it be enough for each that the genius of God finds no obstruction in him; that he is part of the organizing force of the universe—as much as the coral building in the sea, the sun that vitalizes a world. And when the day is past and his bit of work is done, the ideal he has served will whisper a sweet and secret joy—'Thou hast labored, and others will enter into thy labors.'"

How truthfully this applies to us! Is this not an expressive keynote to govern us and to dispel the chaos in which we find ourselves? Does it not formulate the ideal for the future of medicine—a solution as to the part each must assume?

Our science has made rapid progress. The public gleans the power we possess to conserve and prolong their physical well-being. Knowing, they demand its benefits. No individual can become expertly proficient in the application of all our scientific knowledge. The average lay individual cannot afford to purchase these benefits unless we correlate their cost with his ability to pay. His love for his offspring may cause him to incur a single sacrifice the result of which will often bring him greater disaster than the occasion involves, and assume an obligation beyond his financial responsibility. He will not do so repeatedly at the cost of his independence. It is when we compel such repeated sacrifices that he will

through his legislators demand that the state grant to him that which we make it impossible for him to secure. It is for us to make available to the average layman professional services that will protect his physical welfare and at the same time provide for ourselves emoluments that beget to us and ours a competency that provides life's comforts and joys. Veritably a stupendous problem fraught with potential eventualities, still not impossible of satisfactory solution.

When we individually and collectively fail to meet up to the ideals and demands of the public we relinquish our right to their trust and confidence. Sordid, commercial ambitions seek to cause us to forfeit the people's confidence. Are we to develop solely as commercialists, worshiping at the shrine of dollar idolatry and the size of our golden calf the index of our attainment and skill? Or shall we continue as true votaries of our science with the welfare of our fellow-man as our first consideration with personal reward and independence a co-incident factor of our humanitarian services? We are pressed for the answer.

The world upheaval of but a few years ago is still manifesting itself. We have not accomplished our readjustment. As a profession, in company with all other scientific groups, we have been drawn in the maelstrom of social and commercial confusion. It is little to be wondered that there has been much discussion of various forms of state controlled medicine and cult practices that seek to bring about a new relationship between physician and patient. Such propaganda is but the bubbling gases escaping from the fermenting process. Effervescent in nature and theory they may momentarily arrest progress, divert our purpose and cause a feeling of apprehension. We have lost sight of principles. We have been unnecessarily concerned with details.

State medicine will not and cannot become an American institution. The freedom, temperament and culture of our people will not tolerate it. The domiciliary right of American homes will not countenance the violation of its precincts by the invasion of state created authority that will assume to minister to flesh and blood of the father and mother that are the head of that home. I have no fear or concern that such a state of affairs will come to pass. My greatest concern lies in the physician, surgeon or specialist of today and their followers of tomorrow. Concern as to how they are going to measure up to the new state of affairs that is to be, how they are going to acquit themselves of their new responsibilities and concerning the ideals that they will elect to govern and inspire them. Upon that principle deos our future rest. "An age deficient

of idealism has ever been one of immorality and superficial attainment, since without the sense of ideals, nobility of character becomes a rare attainment, if possible."

The day of the individual doctor as we have known him has passed. Group practice of medicine succeeds him, except in certain instances. Clinical centers must and will be provided. We must, on our own initiative, organize these groups and organizing them demand that our national, state and county medical organizations shall supervise and censor their activities and conduct. A code of ethics was formulated by our elders for their and our guidance. So must we formulate the new ideals that shall govern these groups of of medical men. We must revamp, revise and add to that code of ethics so that through its precedents we will conserve our present distinguished position, acquire renewed public confidence and establish a leadership in state and nation in all matters pertaining to the health and physical welfare of the people. Therein lies our future stability, the future of the medical science, practice, hopes and aims. While wearing the mantle of science we cannot worship in the temple of gold. The caduceus cannot be cast aside and in its stead we permit to be accepted the money pots of Midas as the emblem of the medical profession's integrity.

It is your definite responsibility, as members of this State Medical Association, to contribute that constructive support to those whom you delegate as officers of your American Medical Association. A specific task is yours in the accomplishment of the solution of the problem. The degree with which you acquit yourselves, in conjunction with your confrères, will determine the future of medicine and the ideal to be sought. Let us ever remember that what is stirring the world's heart, changing the face of the times and representing the form and working of the age is that intelligence, that sentiment, those thoughts and opinions, whose written and spoken word is power. That power is ours, providing we formulate an acceptable ideal that will impregnate the activities of our associates in the readjustment of medical contact with the people who compose our constituency.

Organization is the symbol of every human success. An individual must organize his plans, his habits, and his time—himself in short—in order to accomplish. The family, the school district, the county, state and nation are held together by organized government, but the medical profession is so loosely joined in many communities that its lack of cohesion is an inherent weakness which delays progress.

Trades unions meet weekly and fine absent

members, their only objects being higher wages, less work, quick payment, and approved employers.

Physicians meet infrequently (if at all), tentatively discuss a fee bill every few years and work for any one at any hour with or without compensation.

"The county medical society is the foundation stone of the practice of modern medicine. It was this institution that through contact and association began to soften the personal antagonisms once thought to be a necessary part of competing doctors' equipment."

"The county society first suggested the possibility of friendly assistance from competitors, in emergency. Consultations grew out of the county society and while these home organizations are loosely knit and in many places inefficient, it is because they cannot be continuous and interest wanes between infrequent meetings. Nevertheless, future success of the individual practitioner will be measured by his working interest in his county society, because it is his nearest opportunity to expand his professional vision."

"The State Medical Society is a representative convention of county societies. It is assumed that the best men from each county society attend it, because their presence indicates interest, which is essential to progress."

Those who participate in state societies; in its politics, with prepared papers, and in discussions, are, or soon become, known as their profession's leaders in the state."

"Politics is the breath of life to a state medical society. Officers who are elected without a struggle from their friends will neither appreciate the honor nor work for the society. Politics in medicine must be guided solely by patriotism for the society's interests. Earnest working members should hold the offices rather than those whose claims are advanced age or the negative virtue of no declared antagonisms. The perpetuation in office of social cliques is vicious and not medical politics in its truest sense." (Work.)

Both county and state medical societies are invaluable from a social viewpoint quite exclusive of their technical features but no paper was ever read to medical men without someone learning something to use or to avoid.

The American Medical Association is a composite picture of the county medical societies of the United States, blended through the screens of their respective state societies. County societies elect delegates to the state society which in turn elects the state's representatives in the House of Delegates of the national association.

On hundred thirty-seven members of county medical societies constitute the House of Del-

egates, make the laws, elect the officers and control the scientific output of the most advanced, independent and virile body of medical men in the world.

That House of Delegates is the American Medical Association, in concrete. It is uncompromising, direct of thought, alert and intellectually honest. It has indirect moral obligations to the physical welfare of this nation that its members probably never considered. Yet their habit of thought which automatically puts to them the question "What is expedient?" sets this House of Delegates apart from all other deliberative bodies of men and unconsciously directs them. Members of county societies who do not attend the scientific sections of the national organization miss an annual opportunity for postgraduate instruction no other country can give, and those who fail to read its JOURNAL are depriving themselves of a liberal medical education.

That House of Delegates will be just as representative, just so efficient and will reflect the medical men of this country in that degree in which your Association and every other state organization elects as their delegates men who are sincere and concerned with the solutions of the national problems that continuously confront.

My closing plea then is that you medical men of Missouri manifest greater interest in the activities of your county and state associations and refrain from delegating the work in your state to a mere five per cent of your membership. Become aggressively concerned in your society work, your community problems and your relationship to the public. Establish and assume leadership in all matters medical. Thus set a standard and by your good deeds and achievement inspire your sister associations to do likewise. In the end then there will be effectively established that solidarity that will confer upon the medical profession that power and leadership that rightly is our heritage. I plead that that enthusiasm and cooperative effort may be speedily manifested.

Powers Theatre Building.

STUDIES OF DISORDERS OF THE DUCTLESS GLANDS*.

WM. ENGELBACH, M. D.

ST. LOUIS.

The following is a lantern-slide demonstration presenting some unusual internal secretory disorders and results in the treatment of ductless gland diseases. In offering these for your consideration I will first demonstrate four

cases which we have recently had under observation and then illustrate the results of treatment in the ordinary dyscrasias of the pituitary gland, the thyroid gland, the generative organs, and the thymico-lymphatic tissues. In these demonstrations we will give only a very brief abstract of the history and then show on the screen the important signs.

FROEHLICH'S DISEASE, WITH ATRESIA OF THE VAGINA.

The first case is a young woman twenty-one years old from Spokane, Washington. She has a bilobar deficiency of the hypophysis, with an atresia of the vagina, a complete hypoplasia of the genitalia, and an amenorrhea. She has the classical signs of pituitary adiposity, with an accumulation of panniculus localized about the girdle region, and in addition a mammary adiposity, which is attributable to the secondary gonad insufficiency due to primary absence of function of the anterior lobe pituitary gland. In all cases of marked insufficiency of the anterior lobe of the pituitary gland there is decrease in function and development of the genital tract. In women there is an aplasia of the genital tract, but very rarely an atresia of the vagina, due to this cause. On examination in this case there was found only a very superficial pouch and complete absence of the vaginal opening or canal. Whether or not this had any relation to the pituitarism is a question. It is the first case that we have observed among many hypoplasias of the generative organs due to hypopituitarism. Dr. W. H. Vogt, after making a rectal examination of this patient, reported the tubes and ovaries very tiny but could give no absolute estimation of their actual size. Complete medical survey revealed no evidence of lesion of any other system. Regarding the etiology of the decreased function of the hypophysis in this case, we can say that there were absolutely no signs of pituitary tumor. We have been taught that the only lesion of the pituitary gland that could be recognized was a neoplasm and that the diagnosis of this could be made only by sella turcica deformity combined with evidence of pressure upon the structures in the neighborhood of the hypophysis. This has not been our experience, as in a total number of 371 simple pituitary disorders we have collected only 14 pituitary tumors,¹ less than four per cent. Consequently, X-ray examination of the sella turcica with investigation of ocular and other neighborhood signs will not aid in the diagnosis of over ninety-five per cent of pituitarisms; although it is true that when neighborhood signs are present indicative of changes in the actual size of the hypo-

*Read before the St. Louis Medical Society, February 26, 1924.

1. Clinics of North America, St. Louis Number, Vol. 7, No. 5, 1924.

physis they are very important. Yet in this very large percentage the general hormonal signs—the effects of the hormones from the hypophysis upon the growth, development, and function of other portions of the body—are the most important for diagnosis.

The peculiar type of adiposity present in this case indicates insufficiency of the posterior lobe of this gland, and the absence of growth, development, and function of the genital system is sufficient, when taken with the adiposity, to diagnose absence of function of the anterior lobe. Besides this adiposity, the general picture shows the classical hand “*en petite*” of hypopituitarism, with short, tapering fingers, and the characteristic small, beautifully formed “Gibson” type of head usually present in these individuals. The head, hands, and feet are all disproportionately small as compared with the rest of the body.

GRAWITZ DISEASE, OR DISORDERS, OF THE ADRENAL CORTEX.

The next three cases we will demonstrate are ones which we believe have decreased function of the cortex of the adrenal. We have been very much interested recently in the clinical syndromes associated with disturbed function of the cortex of the adrenal. These disorders are extremely difficult to diagnose, as they are almost as indefinite as pituitary disorders were ten years ago. The adrenal, as you know, is a dual gland, the medulla or so-called chromaffin portion, from which is obtained adrenalin or epinephrin, derived from the same blast of the embryo as the sympathetic nerve cells; and the adrenal cortex, having its origin in the epithelial cells of the mesoderm of the body cavity, arising from the anterior portion of the Wolffian body and therefore derived from the same blast in the embryo as the sex organs. In the amphioxus or dipnoic fish there is nothing that corresponds to the adrenal glands of other vertebrates, and in the shark and allied forms structures are formed in relation to the ganglia of the sympathetic nervous system which clearly correspond to the chromaffin structures of the higher vertebrates, while other structures, lying behind the kidneys, termed the “interrenal bodies,” appear to represent the cortical substance of the adrenal of higher forms. This demonstrates the morphological independence or the distinct separation of the two portions of the adrenals in mammals, the cortex and the medulla being separate glandular tissues.

This is true also with regard to the functions of these different portions of the suprarenal. The cortex probably has a function very different from that of the medulla, the exact nature of which has not been determined,

so its clinical relationships are yet rather uncertain. This function, however, must be very important as compared to its size as the cortex is about nine times as large as the medulla. Its hormonal effects unquestionably are related to both the primary and secondary sex characteristics and possibly also to the hair growth and pigmentation. That a disturbance of its function causes an entirely different clinical complex from that presented by Addison's disease is without question. We have selected the following three cases as being disorders of the function of the cortex of this gland.

The first case is one of a girl from Tacoma, Washington, in which section of the country disorders of the ductless glands are extremely prevalent. The region along the Pacific Coast is unquestionably the most fertile for endocrine disorders. Even hyperthyroids occur more frequently there than around the fresh lake districts of our Middle West. It is not unusual there to see exophthalmic goiter in infants and young children, and status thymicolymphaticus is considered a common disease. This girl, eighteen years of age, has complained of complete amenorrhea for the last three years. With the onset of this amenorrhea there occurred a marked increase in size of her hands, feet, and the peaked bones of her face. Coincidentally with the change in her osseous and genital systems there occurred a pronounced pigmentation, localized about the axillæ and chin, with a slight gain in weight. She had matured at the age of thirteen, but her menses had been irregular, with intervals of two to three months for two years, until the age of fifteen at which time with the changes noted above in her osseous and dermal systems her periods ceased entirely. Previous to the cessation of her periods and other changes she had a very severe tonsillitis and an otitis media. We have often been struck with the frequency with which endocrine disorders follow comparatively mild infectious diseases and there is no question that in people who are potential endocrines or who have some aberrant or partial endocrine disorder, slight infections frequently cause marked changes of the ductless gland functions. A short time after the age of fifteen, subsequent to the other changes noted above, there was a marked growth of hair over the entire body. This was not an unusually heavy or luxuriant growth, but one so noticeable on the exposed surfaces of the body that it caused the patient a great deal of worry and annoyance. On examination we found in addition to her tendency to a male type of form and figure a clitoris so unusually developed that she could be termed a pseudohermaphrodite.

It has been known for a considerable length

of time that tumors such as hypernephroma of the adrenal or tumor of the kidney which extends into the adrenal cortex are associated with marked changes in the development and function of the genital system. These tumors occurring in the infant or very young juvenile individual usually produce a precocious somatic and sexual development, with a marked overgrowth of both the primary and secondary sex characteristics. When such a tumor is palpable in the kidney region it is very frequently diagnosed sarcoma of the kidney, on account of its size and the rapidity of its growth. The production of an overdevelopment of the primary and secondary sex characteristics at this early age is usually sufficient in itself, however, to establish the origin of the tumor as being in the cortex of the adrenal.

When these tumors occur in the postadolescent or adult age, however, the opposite conditions, such as retardation or complete cessation of the sexual function, frequently occur. In the very beginning of these tumors there is probably a hypersecretion or overstimulation of the cortex of the adrenal, which produces a tendency to overdevelopment of the genital system and secondary sex characters, but this hyperactivity is of comparatively short duration and probably soon changes into hypoadactivity, with a consequent reduction or complete absence of sexual function and a reversion of the general type of makeup toward that of the opposite sex. If you will note the illustration on the screen you will see this masculine type, particularly in the posterior view of the patient, showing the typical narrow pelvis and genu of the male. Close-up views of the face show the marked changes in the osseous growth, in comparing pictures of this case before the age of fifteen with those taken afterward. The very black pigmentation in the axillae is also demonstrable but less evident about the chin. There is complete absence of adiposity. Serial pictures up to the age of fifteen are entirely free from any marked abnormalities as far as features, pigmentation, and typical makeup are concerned. The blunting of the peaked bones, changes in the hands, pigmentation, and hypertrichosis are noted only in those pictures following the age of fifteen, when the amenorrhea occurred.

We were fortunate in having both Professor Julius Bauer, of Vienna, and Professor Arthur Biedl, of Prague, examine and interpret this case. They both agreed with us that it was more than probably an insufficiency of the cortex of the adrenal. There is no other endocrine complex with which it would agree. It could not be an acromegaly, on account of the presence of amenorrhea, although the osseous changes resemble acromegaly quite perfectly.

We are aware, however, of the interrelationship particularly of the cortex of the adrenal and the anterior lobe of the pituitary gland. In many giants and acromegals there is a secondary stimulation of the cortex of the adrenal, producing changes in the hair growth and pigmentation. This interrelationship was graphically demonstrated by the experimental work upon tadpoles and rats by Smith and Evans, of the University of California. For instance, there was produced very remarkable pigmentation, as well as infantilism and histological changes in the generative system, in the tadpoles by complete removal of the entire pituitary glandular substance. Evans has actually produced the acromegalic and gigantic changes in rodents by feeding anterior lobe pituitary gland. On physical and X-ray examination of this case, including pyelographic investigation of the injected hilum of the kidney, no changes could be demonstrated in the size of the kidney, the adrenal, or encroachment upon the kidney hilum, so that no tumor of either adrenal could be demonstrated. Grawitz has described syndromes of this kind, having the amenorrhea, hypertrichosis, pigmentation, and osseous changes, as being due to adenoma of the cortex of this gland, stating that they were relieved by removal of these tumors.

After this case had been given three months' medical treatment directed toward stimulation of the cortex of the adrenal, such as substitution of cortex of the adrenal, anterior lobe pituitary gland and pineal and ovarian substances, without any effect upon the symptoms, an exploratory operation on the adrenals was proposed and accepted. Dr. F. W. Bailey explored the right kidney and adrenal region. This side was chosen because the X-ray shadow appeared somewhat larger than that of the left side, but this is usually the case, due probably to the relation of the right kidney to the screen. At this operation absolutely nothing abnormal was found, as increase in the size of the kidney or the suprarenal gland. The adrenal showed no change in consistency, form, or position, so nothing beyond exploratory operation was done. We did not feel justified in exploring the left adrenal owing to the fact that all the findings had been absolutely the same as on the right side. The patient recovered quickly from the operation and much to our surprise the following day *she began to have the first menstrual flow which she had had for three years*, which continued profusely and painlessly for two days. In a few days the pigmentation was materially changed and when the patient left the hospital it was almost entirely gone. The patient was discharged feeling that she was cured and returned to her home in Tacoma, Washington. A letter from her yester-

day stated that her pigmentation is gone, her hair had stopped growing and she has felt entirely well. The time has not been sufficient for the appearance of another period. In case she has a return of any of her symptoms we have decided to give her stimulating doses of X-ray to the opposite adrenal. Whether or not the operation had any effect in the remarkable change in the course of her symptomatology we cannot say. It is very suggestive and there is a possibility that the manipulation or massage of the adrenal may have had something to do with the apparent relief of all her symptoms.

The next case is a very similar one with regard to symptomatology. We consider it an insufficiency of the cortex of the adrenal. This is a girl from Arkansas, twenty years of age, unmarried, giving the following history: She matured at the age of thirteen. From thirteen to fourteen she had very irregular periods, with intervals of from four to six weeks. From fourteen to sixteen she had only two or three periods. Following a mastoidectomy at sixteen she had a complete amenorrhea for one year. Following a change of climate from Arkansas to Wisconsin she had a period of amenorrhea of eighteen months, while attending the University of Wisconsin. Since her return to Arkansas in the last year the menses have again returned but are very irregular with intervals as long as three months. Those influences which affect the endocrines, particularly infection and change of climate, are again noted in this case, the patient probably having been a potential endocrine or having had a partial hypoactivity as a basis for the effect of these influences. You will note that the menstrual history is somewhat similar to that of the previous case, though not as marked. Besides these menstrual changes she has a very marked overgrowth of hair over her entire body. This is so marked on the face that she has become sensitive concerning it and will not be seen in public. This hypertrichosis, taken with her hyposexuality, has tended to make her very despondent and shut-in, causing her to lose practically all contact and association with the outside world, and it was for this despondency and not her primary ductless gland disorder that her parents sought medical aid.

The third case of this kind, which we believe also to be a hypoactivity of the cortex of the adrenal, is one referred to us by the psychiatric Clinic of this city. This is a girl seventeen years old, who had her first period at the age of fifteen. Her periods were always very irregular, with amenorrheic intervals of two or three months' duration. The girl's psyche also changed very materially and she became unable to adjust herself to her surroundings, appar-

ently "seeking company in a very much lower level than her family, people of refinement and culture, by whom she had been adopted at the age of five." She complained of an unusual overgrowth of hair, particularly about the face and extremities, and with this was also a hypersecretion of the skin. Her growth and stature are of the masculine type. The hair growth is more abundant and more easily demonstrated in the pictures of this case than in the other two. She also has the usual eunuchoid hand of the long, slender artistic type indicating insufficiency of the gonads.

Before closing the discussion of these three cases I wish to call your attention to the specific adrenalin and pituitrin tests we have been making for years upon all suspect endocrines. The adrenalin test is that originated by Goetsch a few years ago which he first thought indicative of hyperfunction of the thyroid but now has agreed indicates a sensitiveness of the sympathetic nervous system so frequently present in hyperthyroidism. These tests are made by giving a specific amount of adrenalin, $\frac{1}{2}$ c.c. of 1:1000 solution, or pituitrin 1 c.c., hypodermically and then watching the effects of these upon the blood-pressure, pulse, color, and subjective symptoms, such as nervousness, emotionalism, intestinal cramps, defecation, hyperglycemia, and glycosuria. In all three of these cases which we believe to be hypoactivity of the cortex of the adrenal we have obtained negative adrenalin tests; that is, there was no rise in blood pressure, no increase in pulse rate above 100, and the patient had none of the subjective symptoms of the normal individual undergoing this test, as emotionalism, an internal tremulous sensation, etc. We do not believe this test in itself of very valuable diagnostic aid. Thus far we have done these pituitrin and adrenalin tests in over a thousand cases and the results as a whole have been very interesting but not very convincing with regard to indicating the function of tissues producing these hormones. We believe, however, that we have proven one fact, that the pituitrin does not in the majority of cases increase the blood-pressure, as has been taken for granted since Oliver and Schaefer first published this effect. In our experience with pituitrin test we found that in fifty-nine per cent there was a drop of blood-pressure. This drop is illustrated in Case No. 3, which had a fall of blood-pressure from 120 to 100 in the first eight minutes, at which point it remained for a half hour, during the remainder of the test.

The fourth case is another illustration of virilism or cortex of adrenal insufficiency, showing a luxuriant beard on a young lady. These patients are very difficult to photograph as they usually keep their hair either closely

shaved or plucked. The other three cases shown had not nearly the extensive hair growth of this one but the other types are very much more frequent than this extreme hypertrichosis.

Before taking up the results of treatment I wish to show one other very unusual case, which we believe to be a very early case of hyperactivity of the anterior lobe of the pituitary gland. This girl according to the history was normal at the age of five at which time she had influenza. Following the influenza she grew very rapidly to the present age of ten. X-ray studies of her osseous system show that she has an unusual overgrowth of all the bones, including the short, flat, and long bones, which would indicate that she is a juvenile giantess. Her teeth, as you can see, show no separation at this age, her hypophysis is absolutely normal in size and shape and she has no signs of neighborhood pressure in the region of the pituitary gland. Comparing her with the normal of the same age gives an idea of the amount of overgrowth of her entire osseous system. She is almost a foot taller than the normal of the same age. X-ray comparing the hand of this individual with that of the normal shows a marked increase in size, her hand being relatively a third larger than the normal. Besides this general increase she has a marked increase in density of the bones, overgrowth of the tuberosities and evidence of tufting of the ends of the terminal phalanges and hooking of the thumb. It might be considered a very classical hand of gigantism in childhood. Comparison of the foot with the normal of the same age shows the same overgrowth in all markings. This is one of the youngest cases of hyperactivity of the anterior lobe pituitary to be found in the literature. Ordinarily hyperactivity of this lobe does not begin before the adolescent age. A perusal of the histories of the giants of both sexes would reveal that there are comparatively few in which the overgrowth started before the age of twelve or thirteen. We have recommended high voltage X-ray exposures directed toward the hypophysis, hoping that this will decrease the function of this lobe and prevent this very distressing abnormality.

RESULTS OF TREATMENT IN HYPOTHYROIDISM, HYPOPITUITARISM, HYPOGONADISM, AND STATUS THYMICOLYMPHATICUS.

Owing to the role the thymus is given in the production of localized mediastinal pressure symptoms, as well as in participation, through its connection with lymphatism, as an etiological factor in hyperthyroidism, as discussed by Professor Warthin in his lecture of last week before the Society, we thought it would be interesting to show some thymus cases. The first is a textbook picture of a persistent thymus,

demonstrating an enlarged thymus in the adult and showing its relationship to the pericardium, heart, and large vessels. The second is an enlarged thymus in an adult which we took for malignant tumor on account of its lateral displacement in the chest. Ordinarily we are inclined to believe that the thymus shadow should maintain the thymus relationship and not extend unilaterally out into one apical region, as this one does. The fact that this shadow and the symptoms disappeared very quickly under a few X-ray treatments convinced us, however, that it was not a malignancy. It melted away under five X-ray exposures. We believe that there are a considerable number of these enlarged and persistent thymuses in the adult particularly which are misdiagnosed sarcoma or carcinoma of the mediastinum or lung, for which reason the X-ray is given credit for curing malignancy on account of their rapid reaction to X-ray treatment. Enlarged or persistent thymus is probably the most susceptible of all the tissues to the X-ray. After this Hodgkin's disease and then non-suppurative tuberculous glands are the most easily affected.

We have noted a marked growth of lymphadenoid tissue in the nasopharynx in these cases of thymicolymphaticus. In one case this was so marked that the patient had had three operations upon the tonsils and adenoids, and yet the whole nasopharynx seemed to be filled again with lymphadenoid tissue. We believe that the rapid recurrence of adenoids or lymphadenoid tissue in the throat is important enough to be considered a diagnostic sign of lymphatism. Furthermore, in those cases of so-called enlarged tonsils and adenoids that have a marked favorable reaction to X-ray treatments we believe a suspicion should be aroused as to whether this condition is not a part of a status thymicolymphaticus, as we know that lymphatic tissue reacts unusually quickly to X-ray exposures, whereas the ordinary hypertrophic tonsils do not decrease very much in size following ordinary X-ray treatments.

We are inclined to believe that in the young enlarged thymuses producing marked symptomatology are very frequently overlooked. On the other hand, it is a frequent cause for mistaken diagnosis, due to the crying of the child during the taking of the X-ray, which will produce a very marked change in the X-ray shadow of the thymus. The heart of an infant is very much larger than in the adult compared with the size of the chest and the vessel shadows apparently are projected up into the jugulum. These shadows are frequently mistaken for enlarged thymus. I wish to demonstrate, however, a series of cases showing enlarged thymuses before and after

treatment. We consider the change in the shadow after treatment in the suspect case a very good test as to whether the thymus was really enlarged at the first observation.

Here is an interesting case of enlarged thymus before and after treatment in which there is demonstrated a pulmonary tuberculosis apparently having developed since the first and last treatments. Notice the marked decrease in size of the thymus. Accompanying the decrease in size of the thymus X-rayically, the symptoms of intrathoracic pressure, such as dyspnea, croup, cyanosis, asthma, aphonia, and chronic brassy cough, were relieved. In one case continual convulsions which had been present for a year were stopped entirely. In another case they have been relieved for a number of weeks, too short a time, however, to determine whether the size of the thymus had anything to do with their production. The third case is one in which a diagnosis is possible on account of the extreme difference in the shadows before and after treatment.

For a long time there has been a moot question with regard to the function of the thymus relative to the osseous growth, rickets, etc. I believe that we now have a method whereby we can really demonstrate this possible relationship. By knowing the normal X-ray osseous pictures for various ages and X-raying the bones for the age in those cases in which we find enlarged thymus, we are able to tell whether there is a retardation or any demonstrable X-ray changes in the osseous growth in the thymicolymphatic cases. Recently we have been doing this and the picture shown demonstrates an enlarged thymus case, showing an insert of the hand with only two carpal bones developed for the age when four nuclei should be shown X-rayically. As far as we could determine there was no other cause for retardation of the osseous growth in this case, such as hypothyroidism, chronic infection, undernourishment, etc. If the osseous system were studied consistently in these cases of lymphatism I am sure this relationship would soon be evident.

Owing to our poor therapeutic results in cretinism we are being forced to the point of making an earlier diagnosis in the congenital hypothyroid. If we expect to get better results from treatment this diagnosis must be made in the first year of life when the thyroid hormone is so important to the mental as well as the physical development of the infant. For the present it must be accepted that the average case of hypothyroidism is not diagnosed and treated until the age of four or five. The loss of the effect of thyroid hormone upon the development of the nervous system for four years is usually impossible to overcome by

treatment in later life. X-ray studies of the osseous system at birth or during the first year of life in those children who have any signs of abnormal development we believe will be of tremendous aid in the confirmation of the diagnosis of hypothyroidism. Dr. Alphonse McMahon and I have published comparative studies of the normal and various ductless gland disorders, from the first year of life up to the age of twenty-five, when the osseous system is complete.² In these studies we found the most reliable guide at birth to be the nuclei of the lower end of the femur and the tarsal bones. A normal baby at birth should have the nuclei for the lower end of the femur and two tarsal bones (talus and calcaneus). At the end of one year there should be present two nuclei for the carpals (hamate and capitate), the distal epiphysis of the femur, the proximal epiphysis of the tibia, and those for three tarsal bones (talus, calcaneus, and cuboid). With this knowledge established, if we have other signs of suspect cretinism, such as a weight of more than 8 lbs. at birth, X-ray studies of the bones should be made. If evidence of hypothyroidism, as demonstrated by the absence of these nuclei present in the normal baby, is found we are justified in starting the hypothyroid treatment a few weeks after birth. If this procedure were carried out consistently on all babies overweight at birth I am confident that a great many of the tragic mental as well as physical retardations produced by this disease could be prevented.

These pictures demonstrate at various ages the effect of hypothyroid treatment upon the osseous development in a cretin. The first picture shows the hand of a cretin at the age of two years illustrating the retardation of the osseous nuclei, as there should be three carpal nuclei casting shadows whereas only one is present. Hypothyroid treatment was begun at this time and the second picture shows the osseous nuclei sixteen months later, demonstrating the three nuclei present. The third picture shows the osseous nuclei in the hand and wrist of the same individual at the age of fifty-six months showing four carpals present, which is normal for the age.

The next is one of a classical cretin at the age of eleven. She had inherited a hypothyroidism, as demonstrated from her history which gives her weight at birth as 12 lbs. Seventy per cent of the babies weighing more than 8 lbs. at birth have hypothyroidism. The other thirty per cent, excluding birth anomalies, such as hydrocephalus, monsters, etc., are either morons or mongols. A comparative few of the children weighing more than 8 lbs. at birth have no anomalies of development later in life.

2. *Endocrinology*, Vol. 8, No. 1, January, 1924.

All of them need not be complete insufficiencies of the thyroid. This, however, is one of the earliest and most suggestive suspect signs of hypothyroidism. The other three signs of abnormal development in the first year are late dentition, late walking, and late talking. Normal infants have the eruption of the first tooth not later than the seventh month and walk and talk not later than one year. Any infant who has all four of these signs should be strongly enough suspected of hypothyroidism to be put upon treatment. If any other confirmation is needed X-ray studies of the bones should be made. With this knowledge there should be no excuse for a diagnosis of hypothyroidism later than one year. If the diagnosis is made at this time and treatment properly instituted I am sure the type of cretin commonly seen at the present time will soon be extinct.

The next illustration is one of untreated cretinism, demonstrating the fact that if diagnosis and treatment is not made early enough these children not only will drift into the incurable thyroid states, but will have added to the thyroid disorder some other ductless gland dyscrasia. This child was born as a congenital hypothyroidism, having had all the chronological characters mentioned above—overweight, late dentition, and late walking and talking. Her overweight, however, did not continue until she was more than one and one-half years of age, due probably to marked gastro-intestinal disturbances and malnutrition occurring during the latter part of the first year of life. At the age of seven, at which time she was undersized and underweight, she contracted the measles. Following this infection she gained weight very rapidly, the adiposity being particularly distributed about the girdle region. Juvenile adiposity we have always attributed to insufficiency of the posterior lobe of the pituitary gland, and we would say from this history alone that the patient had a hypopituitarism of the posterior lobe engrafted upon a congenital hypothyroidism, or that she was a thyropituitary insufficiency. She was treated following this for a number of years with thyroid substance alone. It is this fact (besides the late diagnosis of thyroidism) of the incomplete diagnosis of additional endocrine disorder complicating an early hyperthyroidism which we believe is a cause of our poor results. A comparative picture shows the effect of a combined treatment of thyroid and pituitary substances for six months following the practically negligible effect of simple thyroid treatment given to this case for two years. The difference in height of the child as well as in the loss of adiposity, the facial expression, etc., is marked. We have found that most hypothyroidisms after they have been present for two or three years are complicated by either

a posterior lobe or an anterior lobe pituitary insufficiency. The majority of the obese cretins have posterior lobe insufficiency and the emaciated cretins anterior lobe insufficiency. If this is true they need more than thyroid treatment, that is, an addition to their thyroid medication of anterior or of posterior lobe pituitary substance.

The next is an interesting case of myxedema having a high basal-metabolic rate. In the classical myxedema the basal metabolism ordinarily runs from -25 to -40 per cent. We were very much surprised in this woman who shows all the classical physical signs of myxedema besides having given a typical history, including somnolence, to find that her basal metabolic rate in the first test was $+36$ per cent. We had her rest for a few days, keeping her absolutely quiet, and then took it again and found it to be $+38$ per cent. In order to get an unbiased reading of her basal metabolic rate we sent her to Barnes Hospital and had Dr. Olmsted make this test. He reported a $+40$ per cent. In spite of this high basal metabolism, which would indicate a hyperthyroidism instead of a myxedema, we placed her upon thyroid treatment and in six months she lost just 100 lbs. Since that time she has lost 40 or 50 lbs. more. This is one of the few cases of classical clinical myxedema which we have found to have a high basal metabolism. Not long ago I saw one of these cases in Dallas, Texas, which had been under observation there for over a year and had been in the hands of various men, all of whom were afraid to give thyroid treatment on account of having obtained a high basal metabolic rate. At my suggestion she was placed upon thyroid treatment, with a reaction just as remarkable as in the case above,—disappearance of her pseudoedema, clearing up of her mental state, and relief of all her symptoms. The facial expression, particularly about the eyes, nose, and lips, is characteristic. This, taken with the peculiar alabaster skin, is sufficient in itself to make a diagnosis of this disorder. The results of treatment in these cases is shown by the close-up after thyroid substitution.

The next picture is that of a hypogonad, which I have shown before, demonstrating merely the classical result in treatment. This case has been reported in the Clinics of North America, under the title of "Endocrine Amenorrhea" (St. Louis Number, November, 1920). It is one in which two abdominal operations had been performed, one for appendicitis by Dr. Frank Lutz one year before we first saw the patient, without relief of the symptomatology, which consisted particularly of nausea and vomiting. We had this patient under observation for five years on account of the nausea and vomiting, headaches, and attacks of what

appeared to be angioneurotic edema. We finally persuaded Dr. John Young Brown to operate upon her again. An exploratory operation was done, without finding any etiology or abdominal condition. Following the operation she was put upon corpus luteum, which at that time was first placed upon the market. There was remarkable improvement on this treatment, a gain of 70 lbs. in weight in six months with relief of all symptoms with the exception of the amenorrhea. Since that time (over five years) she has had many relapses due to a discontinuance of her treatment. After stopping the use of the corpus luteum or ovarian substance she begins to decline into the same state as previous to the last operation. She first loses her appetite, then begins to have nausea, then headaches, and finally vomiting, and then she loses weight very rapidly. Through many of these relapses we have given her various other sera, as horse serum, sterile hypodermics, antuitrin, small doses of adrenalin, etc., in order to be sure that she had not been having a psychic effect from the hypodermics or treatment, but without any effect. Just as soon as she would again receive the hypodermics of ovarian substance or corpus luteum the symptomatology would stop and she would experience relief and with the exception of the restoration of the menses, gradually return to a comparatively normal state.

The next is a case of pituitary headache before and after treatment. More accurate information of the results can be obtained from the chart showing her measurements and blood-pressure before and after treatment. The patient lost 14 inches in the hip measurement. The fact that we can remove the panniculus localized about the hips by giving pituitrin I think is one of the best arguments that this particular adiposity must be due to insufficiency of the posterior lobe of the pituitary gland. In addition to the changes in weight and form her headaches disappeared entirely, her dysmenorrhea was relieved completely, the albuminuria cleared up, and the blood-pressure was reduced to normal. She had been sent to us, by the way, with a diagnosis of chronic nephritis on account of the albuminuria and high blood-pressure associated with her distressing headaches.

Here is a case that represents the effects of treatment in a case of hypopituitarism at the age of seventeen, showing the patient before and after one year's treatment. The results in this case are just as remarkable and startling as the effect obtained in an adult myxedema. We are frequently told that these changes are the natural changes occurring during the adolescent life and we chose this case on account of the fact that he had passed through his normal adolescent years to the age of seventeen

with his adiposity and genital hypoplasia following which the therapeutic effect was produced during the seventeenth and eighteenth years by pituitary substitution. Not only have the adiposity, facial expression and general contour of the body changed most remarkably, but he also has a very marked increase in the genital growth and development and in the secondary sex characters, such as hair growth, etc.

The last case is one that I have presented to the Society clinically a number of years ago. It is a classical case of pituitary hibernation, beginning at the age of thirty-eight. Up to that age the patient had been practically normal. He then began to gain weight rapidly, underwent a loss of libido and potency, and became more and more somnolent until he arrived at the stage of complete hibernation, from which he could not be aroused for days at a time. His head hangs forward, due to the fact that he could not keep awake long enough to have photographs taken. A comparative picture shows the effect of treatment. The marked decrease in weight, size, and general makeup of the individual is more remarkable than that obtained from thyroid treatment in myxedema. We have now collected twenty odd cases of this kind and all with the exception of one have reacted to treatment. The treatment, however, does not consist of substituting pituitary hormone alone. With this must be given thyroid treatment. They will not react, however, to thyroid substance alone. We have tried out quite a number of these cases on thyroid alone and have convinced ourselves that only a very slight improvement can be obtained from thyroid. Possibly twenty per cent relief is the maximum that can be expected from thyroid treatment. That is, they will lose only twenty per cent of the abnormal weight and clear up partially under this treatment. We did this to prove that they were not cases of myxedema and convinced ourselves that there were other elements in the production of their symptomatology besides a pituitarism. Neither will they react to pituitary treatment alone, for we have tried the same experiments in a considerable number of cases and found that pituitary treatment does not relieve all of their symptoms. After having tried both of these hormones at separate intervals for a considerable length of time, to tolerance, and being sure that we had obtained the maximum results from the single hormone we then combined the thyroid with the pituitary treatment and in every case with the exception of one obtained marked results.

University Club Bldg.

DISCUSSION

DR. J. P. COSTELLO: There were several points which impressed me very much, especially the en-

largement of the thymus in infancy. We all know the thymus is supposed to be largest in infancy and that it gradually gets smaller until puberty. There are a few conditions, however, which produce enlargement of the normal thymus, bronchial infections, for instance. If we take an X-ray we will find that the thymus will be acutely enlarged, but after the child has gotten over its infection the thymus will have gone down. I believe one has to be careful in using the X-ray because we may degenerate that thymus too much as well as produce artificial enlargement. We have no gauge. We cannot tell how much it is going to atrophy, and thus destroy its normal function in the developing child.

I cannot agree with Dr. Engelbach that infants weighing eight pounds, for instance, should be considered hypothyroids. The fact of the matter is that most of our statistics are not taken from the average child but from institutional children which includes prematures and undernourished infants from prenatal causes. Why the average child in the hospital is smaller than the home baby is because of prematurity and constitutional conditions requiring hospital care.

I believe there are many children weighing ten pounds who do not show hypothyroid symptoms. I think it is wrong to begin thyroid treatment simply because a child weighs too much at first irrespective of the size of the baby because you may throw the child into new metabolic disturbances unless you gauge your thyroid extract very carefully, and as we have no rule or gauge as to dosage, unless there are symptoms of high thyroidism we had better not give it at all.

DR. HUDSON TALBOTT: I was rather interested in the statement about children weighing more than eight pounds at birth. I should like for him to tell us a little more about that, if he will. Do they develop abnormally or do they swing around to the normal, and the percentage if possible?

DR. F. NEUHOF: I should like to ask what was the blood pressure of the first case spoken of, the hypo-adrenal case?

DR. R. S. TILLES: I should like to ask in the case of this young girl benefited by the ovarian substance if one ever thought of trying transplantation of ovaries. If she is constantly relapsing she might be benefited by transplantation.

DR. WILLIAM ENGELBACH (closing): I want to thank the gentlemen for the discussion. I have already taken so much of your time that I will attempt only to answer the questions of the discussion. Dr. Costello spoke of the acute enlargement of the thymus that occurs during acute infection. Yes, this occurs, as well as the enlargement of the thymus produced by crying. These conditions, however, are not difficult to differentiate from the chronic persistent enlarged thymuses causing more or less constant mediastinal pressure symptoms. This can be done by determining the cause of the acute infection in the one case, and by taking the X-ray picture only when the child is absolutely quiet and free from emotion in the other. Serial X-ray examination should be made and other evidence corroborating mediastinal pressure symptoms should be demanded before diagnosing an enlarged thymus. When such a diagnosis is made the shadow demonstrated can be proved to be the thymus by carefully watching the effect of X-ray treatment upon its size. We are very skeptical about the value of physical signs in these cases. In fact, we do not make a diagnosis of enlarged thymus unless we can demonstrate it X-rayically, although there are many men, as Dercum, who claim that many cases of enlarged thymus cannot be demonstrated by the X-ray.

Dr. Costello's criticism, regarding the danger of X-raying the thymus must be borne in mind. The

X-ray exposures to the thymus should not be given oftener than every three or four weeks, and then not unless carefully controlled by comparative measurements of the shadow in the radiograms taken before and after treatment. Another guide in the treatment should be the relief of symptoms. If all the mediastinal pressure symptoms and general hormonal signs are relieved, even if the thymus remains slightly larger than normal there is no indication to give further X-ray treatment.

I am also obliged to Dr. Costello for challenging the statement that an overweight of babies is abnormal. I am convinced in my own mind that this is true, although pediatricians are rather disinclined to admit that the overweight of a child is just as important as underweight. I am not absolutely sure about the maximum weight of a normal baby. But it is of importance to trace the cretin back as we have done, and this will answer Dr. Talbott's question. The first year's history in the cretin has forced us to bring forth this statement, that the constant repetition of these four conditions occurring in the first year of life of a cretin has led us to believe that they are the most important cardinal signs of cretinism. It is barely possible that there are some infants who are overweight at birth who do not follow the course later in life usually pursued by the hypothyroid child. There is no question but that a great many individuals at various ages have had some disturbance of their internal secretions which nature has remedied, consequently preventing the appearance of pathological effects later in life. Of course, we are not able to say absolutely that every child weighing over eight pounds at birth is a cretin. It certainly is very suspicious, however, and we believe that such an infant should be X-rayed to determine whether, besides this overweight, there is any corroborative evidence of cretinism, such as retarded osseous development. If these two conditions are present we would strongly advise immediate substitution treatment of thyroid gland, so as not to take any chance with the possible defect of mentality which will occur if the thyroid is insufficient during the first year of life. Besides the overweight at birth, the late dentition, and the late walking and talking, the difficulties of feeding and nursing have been so prevalent in the histories of cretins that we are beginning to believe that this is also one of the common signs occurring in the first year of cretinism. In obtaining the histories of cretins ninety per cent. relate the difficulties of supplying a food mixture, frequent attacks of colic, diarrheas, dysenteries, and tendency to insomnia coincident with gastro-intestinal upset during the first year of life. All this early history is so significant because the diagnosis in the first year of life is tremendously important, and we cannot wait until we can determine the mentality of the baby before treatment is begun. If we wait until that time there is much retardation in the mental development of the child that it cannot be overcome by treatment. As we have said, there are other conditions to be considered in these obese babies, such as birth anomalies, moronism, and monogolism.

As far as doing harm by thyroid treatment is concerned, I feel sure that we are doing very much more harm by overlooking these cases or making a diagnosis too late to prevent their mental defect than we possibly could do by giving a carefully regulated thyroid treatment to normal babies. Desiccated thyroid gland given in powder in milk, one-eighth to one-tenth grain in a day, measured by the effect upon the rectal temperature, can be given so carefully that I am sure no harm will be done. The rectal temperature is the only safe guide in the infantile age. It should be taken for three or four days, at least twice a day, to determine the normal range in a given baby. Then a small dose of thyroid, say one-tenth

grain, should be given once a day, watching the effect upon rectal temperature. This can be increased by one-tenth grain and gradually run up until we have some rise in temperature. In order to be sure that the increase in rectal temperature is due to the effect of the thyroid substance, the thyroid should be withdrawn when this occurs and investigation made for other possible causes. If the baby has some incidental infection it is well to discontinue the thyroid for a day or two at least. If there is no evidence of infection as a cause for the increased rectal temperature the dose of thyroid should be reduced below that producing the increased temperature and continued steadily for many months or years, or until the general hormonal signs of hypothyroidism are relieved.

Dr. Neuhoff asked about the blood-pressure in the cases of deficiency of the cortex of the adrenal. It varies considerably. I do not believe that it is as constantly low as in the cases of Addison's disease, an insufficiency of the medulla of the adrenal. Nor do we find an absence of response in the adrenalin test as constantly as in Addison's disease. Addison's disease, of course, as you know, is an entirely different complex, with different symptomatology, course, duration, prognosis, etc.

With regard to Dr. Tilles' discussion, I will say that we have had very little experience in transplantation of any glands, but would consider it advisable in the individual case of which he spoke. Thus far, however, we have been able to control the symptoms in this case, with the exception of the production of a return of the menses. This has also been true with regard to the control of the symptomatology in a great majority of the other cases of enunuchoidism in the female.

CAFFEIN INTRAVENOUSLY—THE BEST OF STIMULANTS.—Caffein, as a temporary stimulant given intravenously, is the one and only drug which in the experience of W. W. Duke, Kansas City, Mo., (*Journal A. M. A.*, April 7, 1923), never completely fails. If given subcutaneously, however, it fails as do other stimulants. He reports the case of an old man with bronchopneumonia who suddenly took a turn for the worse and became apparently moribund. He was practically pulseless. Breathing was of the Cheyne-Stokes type and labored during the periods of dyspnea. Large, coarse, tracheal rales were audible throughout the ward, owing to accumulation of mucus in the trachea. The patient had been given strychnin, atropin, camphorated oil and strophanthin intravenously, and had shown no response to them whatever. Duke then gave 2 grains of caffein sodiumbenzoate intravenously. The patient opened his eyes almost immediately and began to talk. He began to breathe regularly and deeply, and was troubled no further with mucus in the trachea. The pulse became strong and regular. This lasted until the following night, when he again lapsed into the state described and passed away, this time in spite of further use of caffein. This experience has been repeated many times by Duke with almost equally good temporary results. The drug has been used in moribund cardiorenal cases; in uremia associated with coma; in prostatic cases with ascending infection; in uremia and coma; in bronchopneumonia with coma, and in general sepsis with coma. The result in the majority of cases has been temporary, and while the drug has often been repeated two or three times with good effect, the later doses have rarely been as effective as the first. In one case, however, caffein was repeatedly used with the result that the patient recovered from an illness which Duke is con-

vinced otherwise would have almost certainly terminated fatally.

SUBCUTANEOUS IMPLANTATION OF THE HUMAN OVUM.—George L. Streeter, Baltimore (*Journal A. M. A.*, April 7, 1923), relates the case of a woman, aged 25, who exhibited a mass the size of a cherry at the upper end of a scar from a previous operation. A provisional diagnosis of wound-hernia was made. Two weeks later, the swelling had doubled in size, and on account of its rapid growth an exploratory examination was decided on. By that time the enlargement had reached the size of a hen's egg. Operation disclosed, just beneath the skin, embedded in the superficial fascia, a relatively thin-walled and partially transparent cyst, which on removal proved to be an intact chorionic sac, and on being opened was found to contain a well-formed embryo. No opening through the deep fascia or connection with the abdomen could be found. Nor was there any enveloping capsule or any structure other than is normally present in the abdominal fascia, although there seemed to be some enlargement of the blood vessels leading to the area of implantation. On searching for an explanation as to how the ovum was able to reach this site, it was learned that two years previously another surgeon had performed a ventral fixation of the uterus, adopting the procedure in which the round ligaments are pulled through the rectus muscles. As it is possible to mistake the fallopian tube for the round ligament, it is supposed by Streeter that either this mistake was made or that the tube was drawn through the rectus muscle along with the round ligament. He asserts that no case has ever before been reported in which the human ovum became implanted and underwent development entirely outside the abdominal cavity, as happened in the instance described.

OTIOBIOSIS, THE EAR TICK DISEASE.—W. L. Curtis and Martha E. Curtis, Lincoln, Neb. (*Journal A. M. A.*, April 14, 1923), review the literature and report one case of otiobiosis. The boy, aged 7, had not complained of any trouble with his ear, but his mother noticed what she thought was a blood blister in the boy's ear while washing it. Closer examination revealed what might have been taken for a polypus, but which proved to be a tick of the species *Otiobius megnini*, attached to the membrana flaccida. After removal it proved to be quite active, moving about on the table. A small bleeding point was noticed where it was attached to Shrapnell's membrane. No further trouble was experienced by the patient.

OSTEOMYELITIS OF THE ILIUM IN CHILDREN.—Two cases of osteomyelitis of the ilium occurring in children, aged 9 and 13 years, respectively, are reported by Carl Bearse (*Journal A. M. A.*, April 7, 1923). He says that these cases are often not discovered. The local symptoms are often referred to the hip joint, and not to the ilium. The important factor in diagnosis is tenderness over the ilium, without restriction of motion at the hip joint. The roentgen ray is at first of no help, but is later of decided aid. Owing to the structure of the ilium, there is early perforation, and if the disease extends there are further perforations. While the prognosis in this condition is grave because of proximity to the hip joint and the peritoneal cavity, early recognition and treatment render it more favorable. Serious complications may arise at any stage of the disease. The treatment is early operation with adequate drainage, and removal of dead bone, even if it means resecting the whole ilium.

THE JOURNAL
OF THE
Missouri State Medical Association

JULY, 1924.

EDITORIALS

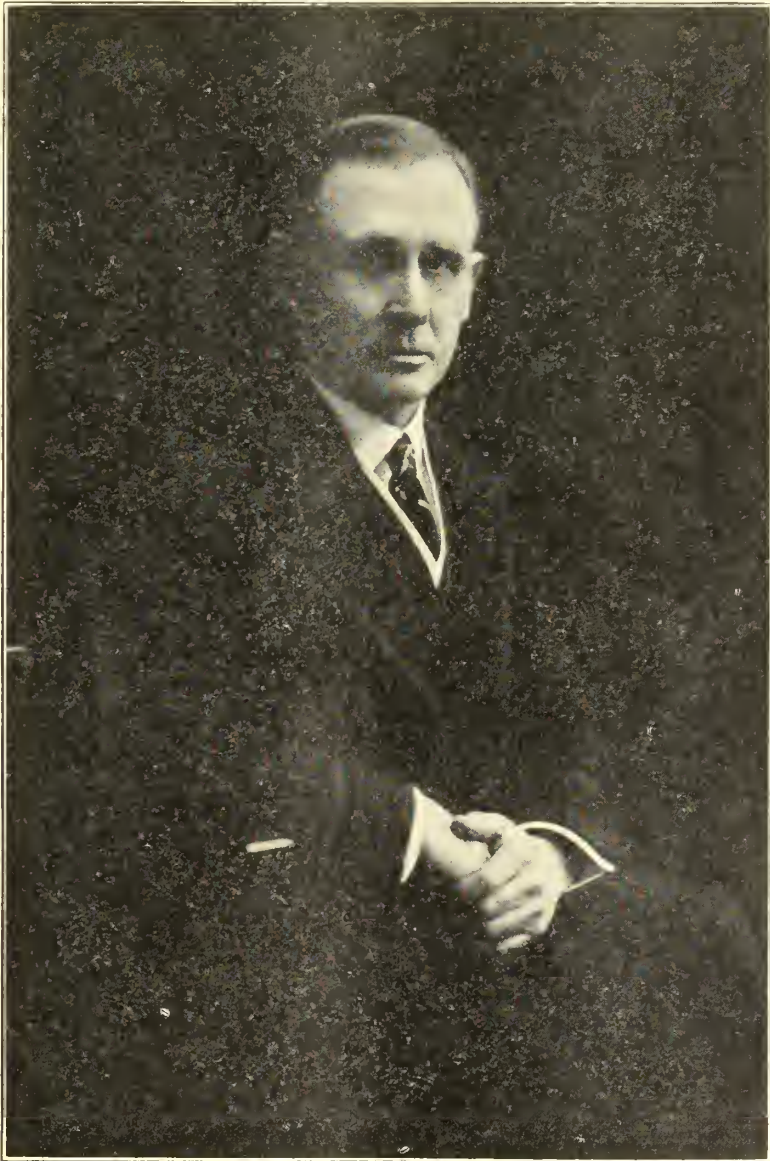
WILLIAM A. CLARK, M.D.

PRESIDENT 1924-1925

Dr. William Alfred Clark, who was elected president of the Missouri State Medical Association at the Springfield meeting, May 6, 7, 8,

1924, was born in Moniteau County, Missouri, September 11, 1865.

On completing the public school curriculum he entered Clarksburg College, where he remained as student and student teacher for ten years, graduating in the full classical course with the Bachelor of Arts degree in 1887. He then went to Waynesburg College at Waynesburg, Pennsylvania, from which school he graduated at the head of his class with the Master of Arts degree. While yet at college he was elected superintendent of schools at Tipton, Missouri, which position he held teaching Latin and mathematics for five years and studying osteology and anatomy during his



WILLIAM ALFRED CLARK, M.D.,
Jefferson City,
President Missouri State Medical Association, 1924-1925.

spare hours in the office of Drs. Redmon and Patterson, whom he had chosen as his preceptors.

Resigning his position as teacher he entered the old St. Louis Medical College, now Washington University Medical School, from which he graduated in 1897. Immediately thereafter he located in Jefferson City for the practice of medicine, at which place he now resides.

He was active in inducing the Sisters of St. Mary to build a beautiful hospital at Jefferson City and when the staff was organized he was elected Chief of Staff, a position which he still holds. The hospital ranks as a Class A institution.

Dr. Clark is a member of the Cole County Medical Society, the Missouri State Medical Association, the Southern Medical Association, a Fellow of the American Medical Association, and a Fellow of the American College of Surgeons. He has been active in the work of the Missouri State Medical Association ever since he started practicing, having only missed one or two meetings in the twenty-seven years he has been in practice.

He was appointed a member of the State Board of Health by Governor Frederick D. Gardner, 1917, and served as president of the board for several years. During this time the Grade C medical schools were denied recognition by the board.

He has been quite active in all matters of civic betterment and has served as president of the Cole County Red Cross since its organization at the beginning of the World War. He has also been quite prominent in Masonic circles and was Grand Master of the state in 1917-1918.

Dr. Clark married Miss Clara Neef, a Jefferson City girl, in 1899 and has two daughters, one married and living in St. Louis and the other at present away at school.

Dr. Clark has proved himself a wise counselor not only in matters pertaining to the practice of medicine and the work of the medical organization but in legislative and public health activities he has shown that he possesses those qualities of mind and heart which will enable him to fill the office of president of our Association with credit to himself and distinction to the organization. We know that every member of the Association will extend every cooperation to Dr. Clark in making the work of the Association effective during his term of service.

INFORMATION ON CANDIDATES

In our June issue we published some data concerning the attitude of candidates for political office on questions touching the practice of medicine and public health laws. Since the June issue was published other candidates

have filed concerning whom we present the following data:

FOR GOVERNOR

Judge Henry S. Priest, St. Louis, Democrat. A corporation lawyer. Appointed by President Cleveland United States District Judge 1894, resigning about one year later. No experience in the legislature. Attitude toward public health laws and medical education uncertain.

FOR STATE SENATOR

(Senators for the odd numbered districts are to be elected this year.)

First District (Counties Atchison, Nodaway, Worth and Gentry.) Marshall E. Ford, Maryville, Democrat. Formerly a member of the Senate and generally favorable toward higher medical education and good public health laws.

E. G. Frazier, Rockport, Republican. No comment.

Third District (Counties Andrew, Clay, Clinton, DeKalb, Holt and Platte). Ira James, Plattsburg, Republican. No comment.

Fifth District (Jackson County). Michael E. Casey, Kansas City. Democrat. Senator Casey is one of the oldest members of the Senate, having been in continuous service for twenty-two years. He is a strong factor on all questions and is generally regarded as favorable to reputable medicine and good public health laws. In 1923 he voted for the restoration of the word "reputable" in the medical practice act.

Louis Laurenzana, Kansas City. Republican. No comment.

Seventh District (Jackson County). Benj. H. Hagerman, Kansas City. Democrat. Mr. Hagerman is a practicing attorney at Kansas City and as far as we know has had no legislative experience by which we could judge his attitude toward medical practice and public health conservation.

Ninth District (Counties Adair, Macon and Shelby). Byron Hewitt, Shelbyville, Democrat; David V. McClelland, Kirksville, Democrat; R. M. Miller, Macon, Democrat. Of these candidates, Mr. McClelland was the Representative from Macon County in 1923 and on the final roll call he voted for the passage of Senate Bill 131 restoring the word "reputable" to the medical practice act. Concerning Mr. Hewitt and Mr. Miller we have no comment.

A. G. Hildreth, Macon, Republican. An osteopath, the owner of the Osteopath Hospital at Macon. Has been the legislative representative of the osteopaths for many years. He is well known as an insistent opponent of measures to strengthen the medical practice act and to secure all privileges possible for the osteopaths.

Eleventh District (Counties Audrain, Lincoln and Pike). Frank Hollingsworth, Mexico, Democrat. At present prosecuting attorney of Audrain County. He is a son of Dr. John E. Hollingsworth, of Vandalia, a member of our Association.

N. L. Drunert, Truxton, Republican. No comment.

Fifteenth District (Counties Benton, Hickory, Pettis and Saline). Judge Henry P. Lay, Warsaw, Democrat. R. A. Higdon, Sedalia, Democrat. Judge Lay is regarded as a man upon whom the medical profession and public health workers may depend for intelligent action and sound judgment in the consideration of laws affecting medical practice and public health questions. He was a member of the Constitutional Convention and favored Amendment No. 5 fostered by our Association.

Mr. Higdon is an attorney at Sedalia and as far as we know has not had any legislative experience.

R. N. Lower, Hughesville, Republican. No comment.

Seventeenth District (Counties Cass, Johnson and Lafayette). Dr. W. A. Porter, Higginsville, Republican. Dr. Porter represented Lafayette County in the House of Representatives for several sessions. He is a member of the Lafayette County Medical Society and his attitude toward public health questions and the practice of medicine has always been in favor of measures that would protect the public.

Nineteenth District (Counties Christian, Dallas, Douglas, Ozark, Polk, Stone, Taney and Webster). Monroe Case, Elkland, Republican. Mr. Case was a member of the House of Representatives from Webster County in 1923. He voted against the passage of the bill to restore the word "reputable" to the medical practice act. As far as we know this is the extent of his legislative experience.

Twenty-First District (Counties Bollinger, Butler, Cape Girardeau, Carter, Dunklin, Ripley and Wayne). Casper M. Edwards, Malden, Democrat. Mr. Edwards was a member of the 50th, 51st and 52nd General Assemblies. During his entire legislative experience Mr. Edwards sincerely advocated the passage of bills sponsored by the medical profession and in 1923 spoke on the floor of the House in favor of the passage of Senate Bill No. 131 restoring the word "reputable" to the medical practice law. He is a strong factor in legislative work and as a member of the Senate would be a powerful bulwark for the protection of the rights of medical practitioners and laws for the advancement of public health work.

Francis M. Kinder, Poplar Bluff, Republican. No comment.

Twenty-Third District (Counties Missis-

sippi, New Madrid, Pemiscot, Scott and Stoddard). Edw. R. Johnson, Charleston, Republican. No comment.

Twenty-Fifth District (Counties Franklin Gasconade and St. Louis). Henry C. Etherton, Overland, Democrat. As far as we know Mr. Etherton has had no legislative experience.

Twenty-Seventh District (Counties Cole, Laclede, Maries, Miller, Osage and Pulaski). Phil M. Donnelly, Lebanon, Democrat. Former prosecuting attorney of Laclede County and a member of the 52nd General Assembly. Mr. Donnelly voted for the passage of the bill restoring the word "reputable" to the medical practice act in 1923. He is not opposed for the democratic nomination.

W. C. Irwin, Jefferson City, Republican. Senator Irwin together with Senator Ralph, was one of the principal factors in 1921 in removing the word "reputable" from the medical practice act and in 1923 opposed the bill restoring the word. His entire legislative career stamps him as a man opposed to higher medical education and unreliable in his attitude toward laws to protect the public health.

Twenty-Ninth District (Counties: St. Louis City). Frank P. Herring, St. Louis, Democrat. No legislative experience.

Frank B. Warner, St. Louis, Republican; Frank R. Smith, St. Louis, Republican. Senator Warner has been a member of the legislature for years and his record is one of opposition to higher medical education. In 1921 he voted for the passage of the bill removing the word "reputable" from the medical practice act and in 1923 he voted against the bill to restore the word in the law. Frank R. Smith, a printer, was a member of the House of Representatives in 1921 and 1923 and used all his influence to defeat measures sponsored by the reputable profession. Between him and Senator Warner there is no choice concerning their attitude toward the practice of reputable medicine and protection of the health of the people.

Thirty-First District (St. Louis City). Senator Michael Kinney, St. Louis, Democrat. Senator Kinney probably is better known to the medical profession than any other member of the legislature for during his twelve years of service in the upper house he has unflinchingly supported every measure that made for better protection of the people in health and sanitation and supported bills that safeguarded the practice of medicine. He has no opposition on the Democratic ticket.

Chas. M. Clark, St. Louis, Republican. Wayne Wright, St. Louis, Republican. Nothing is known concerning the probable attitude of these two candidates as neither one has had legislative experience.

Thirty-Third District (St. Louis City). Joseph H. Brogan, St. Louis, Democrat. Senator

Brogan is one of the oldest members of the Senate, having served continuously for sixteen years. He has no opposition for the Democratic nomination.

Frank O. Bittner, St. Louis, Republican. Mr. Bittner was a member of the House of Representatives in 1921. His general attitude was regarded as opposed to measures that received our endorsement.

Walter W. Bishof, St. Louis, Republican. No comment.

EXPLOITING THE CANCER SUFFERER

The week of the annual session of the American Medical Association was chosen as a propitious time to resurrect two discredited "cancer cures." At the beginning of the week, a Philadelphia paper announced that the cause of cancer had been discovered and that a treatment for the disease had been evolved that was producing remarkable results. This particular piece of publicity dealt with the alleged cancer serum of Dr. T. J. Glover of Toronto. Glover's "serum" and its method of commercial exploitation were the subject of two or three articles that appeared in *THE JOURNAL*, in the early part of 1921. It was there shown that a special committee appointed by the council of the Academy of Medicine of Toronto had investigated the Glover serum and reported that it was unable to find any evidence to show that the serum had produced a cure in any case definitely established as cancer. About the same time, Dr. Francis Carter Wood, director of cancer research at Columbia University, reported that he had subjected the Glover cancer serum to tests and had found not the slightest evidence that the product had any effect on the growth rate of tumors, nor had it cured any tumor. The second "cancer cure" to be exploited last week was that of Dr. William F. Koch of Detroit. Koch's nostrum was brought to the attention of the newspapers of the country by one C. Everett Field in a statement made before the "American Association for the Study and Cure of Cancer," a newly formed organization that must not be confused with the well established American Society for the Control of Cancer. Koch's cancer "cure" was dealt with in two articles that appeared in *THE JOURNAL* during February, 1921. It was there brought out that Dr. Koch announced his alleged "cure" less than a year after he was graduated in medicine. The committee appointed by the local medical society at that time made two reports, both unfavorable to the "cure." Since the committee reported, the Koch "cure" has been exploited by a "sanitarium" of which Koch is the "medical director." The "sanitarium" sends out to the public a typical "cancer cure" advertising booklet; statements derogatory to the treatment of can-

cer by surgery, radium and roentgen rays; quotations (at least one of which is fictitious) from alleged authorities to support Koch's thesis; a statement of Koch's theory regarding cancer and some noninformative statements about the remedy; finally, the usual farrago of alleged case reports. The publicity just given to these two discredited "cures" is producing the usual effect. Sufferers from cancer both directly and through their physicians are frantically trying to learn whether there is any warrant for the claims so carelessly broadcast. There may be things more heartless than that of exploiting the sufferers from so dreaded a disease as cancer, but at this time we do not think of them. The most pernicious feature connected with such exploitation is that of awakening false hopes in the minds of the sufferers. The mental anguish thus caused is just as great whether the "cure" is fraudulent in both its inception and its exploitation, or put forward by honest but misguided enthusiasts. So far as the "cures" of William F. Koch and T. J. Glover are concerned, it cannot be too earnestly asserted that neither one is in any sense established as either scientific or reliable. —*Jour. A. M. A.*, June 21, 1924.

NEWS NOTES

DR. E. F. OEHLER, of St. Louis, has removed his office to Suite 229 Metropolitan Building.

IN this issue we present the first announcement of the Scientific Apparatus Company in our advertising pages. Their apparatus for the application of chlorine gas in the treatment of infections of the respiratory tract enables the physician to apply this new therapeutic agent in a most effective manner.

The following have been accepted for New and Non-Official Remedies:

Abbott Laboratories: Benzyl Fumarate.

Deshell Laboratories: Petrolagar—Petrolagar (Unsweetened), Petrolagar (with Phenolphthalein), Petrolagar (Alkaline).

Hoffman-La Roche Chemical Works: Digalen-Roche (Cloetta—Ampules Digalen-Roche (Cloetta), 1.1 Cc.; Tablets Digalen-Roche (Cloetta); Hypodermic Tablets Digalen-Roche (Cloetta).

Oleo-Bi-Roche: Ampules Oleo-Bi-Roche, 2 Cc.

Mead Johnson and Company: Mead's Cod Liver Oil.

H. A. Metz Laboratories: Sulpharsphenamine-Metz — Sulpharsphenamine-Metz, 0.05 Gm. Ampules; Sulpharsphenamine-Metz, 0.075 Gm. Ampules; Sulpharsphenamine-Metz, 0.1 Gm. Ampules; Sulpharsphenamine-Metz, 0.15 Gm. Ampules; Sulpharsphenamine-Metz, 0.3

Gm. Ampules; Sulpharsphneamine-Metz, 0.45
Gm. Ampules; Sulpharsphenamine-Metz, 0.6
Gm. Ampules.
Frederick Stearns and Company: Insulin-
Stearns—Insulin-Stearns Single Strength:
Insulin-Stearns Double Strength.

MISCELLANY

WOMAN'S AUXILIARY TO THE MISSOURI
STATE MEDICAL ASSOCIATION
Organized at the Request of the National Associa-
tion and Authorized by Missouri State
Medical Association.

At the Springfield meeting of our Association, May 6, 7, 8, 1924, the House of Delegates approved the formation of a Woman's Auxiliary to the Association to be composed of the wives and daughters of members of the State Medical Association. Mrs. Willard Bartlett, of St. Louis, was requested to organize the Auxiliary. Her report to President Clark, which follows, shows what has been accomplished. We also publish the officers and county auxiliaries and the constitution and by-laws of the Woman's Auxiliary. Members of our Association are requested to co-operate with the Woman's Auxiliary in order that this body may reach its highest usefulness in conjunction with the State Medical Association for promoting the health and welfare of the people throughout the state.

REPORT OF CHAIRMAN OF ORGANIZATION
St. Louis, June 19, 1924.

DR. W. A. CLARK, President,
Missouri State Medical Association,
Jefferson City, Mo.
My Dear Dr. Clark:
We wish to submit the following report on the

organization of the Woman's Auxiliary to the Missouri State Medical Association, which was requested by the National organization and authorized at the State meeting at Springfield in May.
Because of your generous assistance and that of the state and county society officers, the women in thirty-eight counties have now effected organizations or taken preliminary steps as the subsequent report will show.

The meeting for state organization, as previously announced, was held June 11th at the Edgewater Beach Hotel, Chicago, during the meeting of the American Medical Association. A constitution and by-laws were adopted, officers elected, and councilor districts and standing committees are now under way and will be reported to you later. At the meeting of the national organization in Chicago it was announced that twenty-five states were organized, many of them submitting very definite constructive programs.

The response from the women in both cities and counties in Missonri has been most gratifying. In two counties we found associations already existed that had been formed in response to definite local needs.

Our immediate aim is to educate ourselves in matters of public health and to be prepared to secure the backing of women's organizations and other groups for legislative enactments which the Missouri State Medical Association desires passed.

We feel sure that as this child grows she will justify your belief in her as a useful, constructive force in promoting the aims of the profession.
Very sincerely yours,

MRS. WILLARD BARTLETT,
Chairman of Organization.

State Officers—1924-1925

PRESIDENT	Mrs. George H. Hoxie, 3719 Pennsylvania Ave., Kansas City
VICE-PRESIDENT	Mrs. Emmett North, 4950 Lindell Ave., St. Louis
VICE-PRESIDENT	Mrs. Joseph W. Love, 1105 Pickwick Ave., Springfield
VICE-PRESIDENT	Mrs. John C. Parrish, Vandalia
VICE-PRESIDENT	Mrs. Frank Gilham, 510 Jackson St., Jefferson City
TREASURER	Mrs. John R. Caulk, Vandeventer Place, St. Louis
CORRESPONDING SECRETARY.....	Mrs. J. G. Montgomery, 524 Knickerbocker Apts., Kansas City
RECORDING SECRETARY.....	Mrs. A. B. McGlothlan, 821 N. 24th Street, St. Joseph
CHAIRMAN OF ORGANIZATION.....	Mrs. Willard Bartlett, 53 Westmoreland Place, St. Louis

Directors

Mrs. Evarts A. Graham.....	4711 Westminster Place, St. Louis, Mo.
Mrs. Guy L. Noyes.....	Columbia
Mrs. George Gellhorn	4366 McPherson Ave., St. Louis
Mrs. G. B. Schulz.....	Cape Girardeau
Mrs. Harry F. Parker.....	Warrensburg
Mrs. C. T. Ryland.....	Lexington
Mrs. Frank D. Gorham.....	5869 Nina Place, St. Louis
Mrs. H. S. Maupin.....	Shelbyville
Mrs. J. J. Bourn.....	Hannibal
Mrs. Leland Boogher.....	5431 Bartmer Ave., St. Louis

Representatives from state councilor districts and chairmen of standing committees will, together with these officers, form the Executive Board, all parts of the state thereby having representation on the governing body.

County Auxiliaries

County	President or Chairman	Advisory	Address
Adair	Mrs. J. S. Gashwiler.....		Novinger
Atchison	Mrs. Chas. E. Benham.....		Tarkio
Atchison	Mrs. E. R. Taylor.....		Fairfax
Audrain	Mrs. R. Lee Alford.....		Mexico
Barry	Mrs. S. A. Newman.....		Cassville
Barton	Mrs. A. B. Stone.....		Lamar
Bates	Mrs. T. F. Lockwood.....		Butler

<i>County</i>	<i>President or Chairman</i>	<i>Advisory</i>	<i>Address</i>
Benton		Mrs. O. L. Cuddy	Lincoln
Benton	Mrs. H. G. Savage		Warsaw
Boone		Mrs. R. R. Robinson	Hallsville
Buchanan	Mrs. J. F. Owens	Mrs. H. W. Carle	St. Joseph
Butler		Mrs. A. R. Rowe	Poplar Bluff
Caldwell		Mrs. G. S. Dowell	Braymer
Caldwell	Mrs. O. N. Thompson		Breckenridge
Callaway		Mrs. A. D. Ferguson	Fulton
Camden		Mrs. Geo. M. Moore	Linn Creek
Cape Girardeau		Mrs. C. A. W. Zimmerman	Cape Girardeau
Cape Girardeau	Mrs. G. B. Schulz		Cape Girardeau
Carroll		Mrs. W. G. Atwood	Carrollton
Carter-Shannon		Mrs. A. Johnston	Grandin
Carter-Shannon	Mrs. H. D. Meador, Carter		Van Buren
	Mrs. R. I. Davis, Shannon		Birch Tree
Cass		Mrs. R. D. Ramey	Garden City
Cass	Mrs. M. P. Overholser		Harrisonville
Cedar		Mrs. R. O. Crawford	Eldorado Springs
Chariton		Mrs. John W. Hardy	Sumner
Christian		Mrs. E. E. Wade	Clever
Clark		Mrs. F. A. Johansen	Kahoka
Clay		Mrs. J. H. Rothwell	Liberty
Clinton	Mrs. L. A. Wilson	Mrs. C. H. Risley	Cameron
Cole		Mrs. W. A. Clark	Jefferson City
Cole	Mrs. Frank W. Gilham		Jefferson City
Cooper		Mrs. A. L. Meredith	Prairie Home
Cooper	Mrs. H. D. Quigg		Boonville
Crawford		Mrs. W. G. Henderson	Oak Hill
Dade		Mrs. Jno. McDermott	Lockwood
Dallas		Mrs. B. W. Vaughan	Urbana
Daviess		Mrs. J. D. Dunham	Pattonsburg
Dekalb		Mrs. H. P. Yeater	Maysville
Dent	Mrs. J. C. Welch		Salem
Dunklin		Mrs. Chas. W. Brown	Kennett
Franklin		Mrs. John H. Bachr	New Haven
Franklin	Mrs. H. A. May		Washington
Gasconade-Maries-Osage		Mrs. M. E. Spurgeon	Red Bird
Gasgo-Maries-Osage	Mrs. J. J. Ferrell		Owensville
Gentry		Mrs. W. S. Campbell	Albany
Greene		Mrs. W. A. Delzell	Springfield
Greene	Mrs. C. B. Elkins		428 Kimbrough St. Springfield
Grundy		Mrs. J. F. Fair	Trenton
Harrison		Mrs. F. H. Broyles	Bethany
Harrison	Mrs. J. A. Magraw		Gilman City
Henry		Mrs. Josiah H. Walton	Windsor
Henry	Mrs. R. D. Haire		Clinton
Holt	Mrs. Eva H. Huiatt	Mrs. F. E. Hogan	Mound City
Howell		Mrs. D. D. Cox	Pomona
Howell	Mrs. A. H. Thoroburgh		West Plains
Iron		Mrs. Conway Bates	Ironton
Jasper		Mrs. L. B. Clinton	Carthage
Jasper	Mrs. A. Mitchell Gregg		Joplin
Jefferson		Mrs. W. H. Farrar	De Soto
Johnson	Mrs. H. F. Parker		Warrensburg
Knox		Mrs. George S. Brown	Edina
Laclede		Mrs. Jas. A. McComb	Lebanon
Laclede	Mrs. J. C. Scott		Fate
Lafayette		Mrs. W. C. Webb	Higginsville
Lafayette	Mrs. W. E. Koppenbrink		Higginsville
Lawrence-Stone		Mrs. T. T. O'Dell	Marionville
Lawrence-Stone	Mrs. D. C. Adams		Aurora
Lewis		Mrs. J. C. Brown	Lewiston
Linn		Mrs. J. Lane Evans	Brookfield
Livingston		Mrs. F. H. Emmons	Chillicothe
Macon		Mrs. T. P. Gronaway	Bevier
Madison		Mrs. C. A. Anthony	Fredericktown
Marion		Mrs. W. H. Hays	Hannibal
Mercer		Mrs. B. S. Powell	Princeton
Miller		Mrs. G. D. Walker	Eldon
Mississippi		Mrs. Jas. R. Lee	Charleston
Moniteau		Mrs. J. P. Burke, Jr.	California
Monroe		Mrs. G. M. Ragsdale	Paris
Montgomery		Mrs. David Nowlin	Montgomery City
Morgan		Mrs. A. J. Gunn	Versailles

<i>County</i>	<i>President or Chairman</i>	<i>Advisory</i>	<i>Address</i>
New Madrid.....		Mrs. P. M. Mayfield.....	Portageville
New Madrid.....			New Madrid
Newton.....	Mrs. W. L. Digges.....	Mrs. H. L. Wilbur.....	Granby
Nodaway.....		Mrs. F. C. Wallis.....	Maryville
Oregon.....		Mrs. C. Rhea.....	Thayer
Pemiscot.....		Mrs. W. R. Limbaugh.....	Hayti
Perry.....		Mrs. D. F. Morton.....	Perryville
Pettis.....		Mrs. W. T. Bishop.....	Sedalia
Pettis.....	Mrs. W. J. Ferguson.....		Sedalia
Phelps.....		Mrs. R. E. Breuer.....	Newburg
Phelps.....	Mrs. Myrtle S. Smith.....		Kolla
Pike.....		Mrs. P. P. Burton.....	New Hartford
Platte.....		Mrs. R. P. C. Wilson.....	Platte City
Polk.....		Mrs. A. P. Mitchell.....	Bolivar
Pulaski.....		Mrs. Chas. A. Talbot.....	Waynesville
Pulaski.....	Mrs. E. A. Oliver.....		Richland
Putnam.....		Mrs. Benj. E. Cobb.....	Lemons
Ralls.....		Mrs. H. B. Norton.....	Center
Randolph.....		Mrs. R. A. Mitchell.....	Moberly
Ray.....		Mrs. Thos. F. Cook.....	Richmond
Reynolds.....		Mrs. L. B. Ralls.....	Ellington
Saline.....	Mrs. W. M. Bichford.....		Marshall
St Charles.....		Mrs. T. L. Hardin.....	St. Charles
St. Francois.....		Mrs. Frank L. Keith.....	Flat River
St. Francois.....	Mrs. W. P. Giessing.....		Des Loge
Ste. Genevieve.....		Mrs. G. M. Rutledge.....	Ste. Genevieve
			St. Louis
		Mrs. J. A. Townsend.....	Eureka
St. Louis County.....	Mrs. Clyde P. Dyer.....		113 E. Cedar St.
			Webster Groves
Schuyler.....		Mrs. A. J. Drake.....	Lancaster
Scotland.....	Mrs. P. M. Baker.....	Mrs. P. M. Baker.....	Memphis
Scott.....		Mrs. E. J. Nienstcdt.....	Blodgett
Scott.....	Mrs. W. H. Westcoat.....		Oran
Scott.....	Mrs. E. J. Mesenstaedt.....		Blodgett
Shelby.....	Mrs. H. S. Manquin.....	Mrs. J. D. Smith.....	Shelbina
Stoddard.....		Mrs. T. C. Allen.....	Bernie
Sullivan.....		Mrs. A. W. Widner.....	Newtown
Taney.....		Mrs. John A. Mitchell.....	Branson
Texas.....		Mrs. L. H. Wallen.....	Summersville
Vernon.....		Mrs. J. W. Dawson.....	Eldorado Springs
Wayne.....		Mrs. J. P. Sebastian.....	Williamsville
Webster.....		Mrs. W. J. Rabenau.....	Fordland
Worth.....		Mrs. P. J. Ross.....	Granite City
Wright-Douglas.....		Mrs. B. E. Latimer.....	Hartville
Jackson.....	Mrs. E. H. Skinner.....		Kansas City
		Mrs. Scott P. Child.....	Kansas City
		Mrs. E. Lec Miller.....	
		Mrs. G. C. Mosher.....	
		Mrs. John C. Hayden.....	
		Mrs. G. E. Bellows.....	
		Mrs. A. W. McAlester.....	
St. Louis City.....	Mrs. Washington E. Fischel.....		4396 Maryland Av.
		Mrs. Roland Hill.....	
		Mrs. W. McKim Marriott.....	
		Mrs. H. G. Mudd.....	
		Mrs. Wm. H. Vogt.....	
		Mrs. Evarts A. Graham.....	
		Mrs. H. W. Soper.....	
		Mrs. Walter Kirchner.....	
		Mrs. F. J. V. Krebs.....	
		Mrs. George Gellhorn.....	
		Mrs. Edward Meisenbach.....	
		Mrs. Harvey S. McKay.....	
		Mrs. Carroll Smith.....	
		Miss Margaret Shapleigh.....	
		Mrs. Greenfield Shuder.....	
		Mrs. William Englebach.....	
		Mrs. J. C. Morfit.....	
		Mrs. Elsworth Smith.....	
		Mrs. C. H. Neilson.....	

CONSTITUTION AND BY-LAWS
of the
**WOMAN'S AUXILIARY TO THE MISSOURI
STATE MEDICAL ASSOCIATION**

ARTICLE I—NAME

The name of this organization shall be the Woman's Auxiliary to the Missouri State Medical Association.

ARTICLE II—OBJECTS

The objects of this Association shall be to promote public health and to aid and encourage the medical profession in its endeavors to educate the public in matters of sanitation and health; to fulfill such functions as may be needed at local, county, district, state and national medical meetings; and at all times to stimulate a feeling of local co-operation.

ARTICLE III—MEMBERSHIP

The membership of The Woman's Auxiliary to the Missouri State Medical Association shall be composed of the County Woman's Auxiliaries to the County Medical Societies and City units.

ARTICLE IV—OFFICERS

Sec. I. *Officers.* The officers of this Auxiliary shall be a President, four Vice Presidents, a Recording Secretary, a Corresponding Secretary, a Treasurer, and ten other Directors.

Sec. II. *Executive Board.* These eighteen officers with District Representatives of organized Councilor Districts of the State Medical Society and with the chairmen of standing committees shall constitute the Executive Board to conduct the business of the Auxiliary.

Sec. III. *Elections.* (a) At the first election held by the Auxiliary there shall be elected a President, four Vice Presidents, a Recording Secretary, a Corresponding Secretary and a Treasurer, each to serve one year; and ten directors, five to serve one year, five to serve two years.

(b) At subsequent annual meetings there shall be elected by ballot a President, four Vice Presidents, a Recording Secretary, a Corresponding Secretary and a Treasurer, each to serve one year; five Directors, each to serve two years; if there are vacancies among the Directors whose terms have not expired, Directors to serve one year shall be elected to fill such vacancies; and from each Councilor District in which all counties are organized, one representative shall be elected.

(c) A Nominating Committee shall be appointed by the Executive Board to present a list of officers to be voted upon at the Annual Meeting, and to be submitted at least two weeks before the call for the Annual Meeting. The committee shall consist of seven members, not more than two of whom shall be members of the Executive Board.

(d) When vacancies occur in the Executive Board, such vacancies may be filled by the Board. Officers elected to fill vacancies shall serve only until the end of the fiscal year.

ARTICLE V—DUTIES OF OFFICERS

The duties of the President, Vice Presidents, Recording and Corresponding Secretaries, Treasurer and Directors shall be those which usually devolve upon such officers.

ARTICLE VI—MEETINGS

The meetings of this Auxiliary shall be held at the same time and place as those of the State Medical Association.

ARTICLE VII—DELEGATES

(a) Each County Auxiliary shall be entitled to one delegate for each twenty-five members or less, and for each additional twenty-five members one each additional delegate; these accredited delegates with the members of the Executive Board to form the voting body at the Auxiliary meetings.

(b) *Credentials.* Each delegate shall present the receipt for dues of her County Auxiliary, with her credentials.

ARTICLE VIII—QUORUM

Twelve members shall constitute a quorum at the Annual Meeting of the Auxiliary.

ARTICLE IX—DUES

Each County Auxiliary shall pay dues to the State Auxiliary at the rate of ten cents per capita, at least one month prior to the Annual Meeting of the State Auxiliary.

ARTICLE X—AMENDMENTS

This Constitution may be amended by a two-thirds vote of those present at any regular meeting of the State Auxiliary not less than one month prior to said meeting.

BY-LAWS

1. *Committees.* The Executive Board shall have power to create such standing committees as become necessary to carry on the work of the auxiliary.

The President shall have power to appoint all special committees (except when otherwise specified in the Constitution).

2. *Meetings of the Executive Board.* The Executive Board of this Auxiliary shall hold at least one meeting during each fiscal year in addition to one at the time of the Annual Meeting of the Auxiliary. Special meetings may be called by the President or by any seven members of the Board.

3. *Quorum.* Seven members of the Executive Board shall constitute a quorum.

4. *Amendments.* These By-Laws may be amended at any meeting of the Executive Board or at the Annual Meeting of the Auxiliary by a two-thirds vote of the members present.

DEFECTIVE DIET AS A CAUSE OF STERILITY.—The theorem advanced by Donald Macomber, Boston (*Jour. A. M. A.*, April 7, 1923), is that the fertility of a mating could be expressed as the product of the fertility of the individuals concerned, and that if this mating fertility is below a certain level, which is termed the threshold for reproduction, no young would result, but that if it was above this level the mating would be positive. The nature of the diet had a distinct bearing on fertility. The effect of diet on inbred animals was to reduce fertility, and to increase the amount of sterility. The kind of dietary deficiency is not important. It seems rather to be the degree, since, the greater the deficiency, the larger the proportion of sterility. The way in which the diet seems to affect sterility is through its general effect on the health of the individuals. The less the effect on health, the less on the average the effect on fertility. There may be great individual variation in fertilities. Such variation is increased by inbreeding and by deficient diet. When the variation is great, the amount of sterility is also great. There are individuals whose fertility is so low that they are unable to reproduce with one another, but whose fertility remains sufficiently high to allow immediate and successful reproduction with highly fertile individuals.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

- Chariton County Medical Society, December 13, 1923.
 Camden County Medical Society, January 17, 1924.
 Madison County Medical Society, January 19, 1924.
 Cooper County Medical Society, January 19, 1924.
 Platte County Medical Society, January 22, 1924.
 Morgan County Medical Society, January 23, 1924.
 Cape Girardeau County Medical Society, January 24, 1924.
 Clark County Medical Society, February 11, 1924.
 Dent County Medical Society, March 5, 1924.
 Adair County Medical Society, March 5, 1924.
 Howell County Medical Society, March 11, 1924.
 Taney County Medical Society, March 20, 1924.
 Webster County Medical Society, March 20, 1924.
 Vernon County Medical Society, March 22, 1924.
 Schuyler County Medical Society, March 24, 1924.
 Atchison County Medical Society, March 25, 1924.
 Ray County Medical Society, April 2, 1924.
 Christian County Medical Society, May 1, 1924.
 Pulaski County Medical Society, May 10, 1924.

MISSOURI STATE MEDICAL ASSOCIATION

Sixty-Seventh Annual Meeting, Springfield,
 May 6, 7, 8, 1924.

MINUTES OF THE HOUSE OF DELEGATES

West Corridor, Shrine Mosque

Tuesday, May 6, 1924—Morning Session

The House of Delegates of the Sixty-Seventh Annual Meeting of the Missouri State Medical Association was called to order by the president, Dr. G. Wilse Robinson, of Kansas City, at 9:45 a. m., Tuesday, May 6, 1924. At roll call sixty-nine officers and delegates responded as follows:

DELEGATES

COUNTY	DELEGATES
Adair	C. M. C. Wilcox, Kirksville
Bates	George A. Delamater, Rich Hill
Buchanan	H. W. Carle, St. Joseph
Buchanan	C. H. Wallace, St. Joseph
Butler	A. R. Rowe, Poplar Bluff
Caldwell	George S. Dowell, Braymer
Cape Girardeau	D. H. Hope, Cape Girardeau
Cass	J. S. Triplett, Harrisonville
Chariton	J. W. Hardy, Sumner
Clay	E. H. Miller, Liberty
Cole	Cortez F. Enloe, Jefferson City
Dunklin	J. A. Hoague, Holcomb
Gasconade-Maries	
Osage	W. E. Spurgeon, Red Bird
Greene	J. D. James, Springfield
Greene	J. W. Love, Springfield
Holt	J. F. Chandler, Oregon
Howard	V. Q. Bonham, Fayette
Howell	A. H. Thornburgh, West Plains
Jackson	C. J. Hunt, Kansas City
Jackson	James R. McVay, Kansas City
Jackson	F. I. Ridge, Kansas City

COUNTY	DELEGATES
Jackson	C. B. Francisco, Kansas City
Jackson	F. R. Teachenor, Kansas City
Jackson	W. J. Frick, Kansas City
Jackson	Nimrod P. Wood, Independence
Jackson	C. O. Donaldson, Kansas City
Jasper	R. M. Stormont, Webb City
Jefferson	N. W. Jarvis, Festus
Johnson	H. F. Parker, Warrensburg
Laclede	J. A. McComb, Lebanon
Lafayette	A. J. Chalkley, Lexington
Livingston	J. H. Timberman, Chillicothe
Marion	Thos. Chowning, Hannibal
Mississippi	A. H. Marshall, Charleston
New Madrid	Wm. N. O'Bannon, New Madrid
Newton	A. W. Benton, Neosho
Nodaway	C. P. Fryer, Maryville
Pettis	A. J. Campbell, Sedalia
Randolph	F. L. McCormick, Moberly
St. Charles	A. P. E. Schulz, St. Charles
St. Louis	Clyde P. Dyer, Webster Groves
Stoddard	Frank LaRue, Dexter
Taney	Guy B. Mitchell, Branson
Webster	E. M. Bailey, Elkland
Wright-Douglas	E. C. Witwer, Mountain Grove
St. Louis City	Wm. H. Vogt, St. Louis
St. Louis City	W. H. Mook, St. Louis
St. Louis City	V. V. Wood, St. Louis
St. Louis City	E. Lee Dorsett, St. Louis
St. Louis City	Jules M. Brady, St. Louis
St. Louis City	Carroll Smith, St. Louis
St. Louis City	Emmett P. North, St. Louis
St. Louis City	Roland Hill
St. Louis City	C. E. Burford
St. Louis City	Walter Baumgarten

Dr. W. H. Breuer, St. James, moved that the reading of the minutes of the Annual Session for 1923 be dispensed with. Seconded and carried.

The Secretary read the resignation of Dr. W. A. Clark, of Jefferson City, as councilor for the Nineteenth District.

On motion the resignation was accepted and the Secretary was instructed to notify the Nominating Committee of the vacancy.

The President, Dr. G. Wilse Robinson, stated that he had no message or recommendations to present other than what would be contained in his annual address but mentioned the following subjects as worthy of the consideration of the delegates: Medical practice, medical education, expert medical testimony, the eleemosynary institutions and medical preparedness.

The Secretary read his report. (See page 245.)

On motion this report was referred to the council.

The Treasurer read his report which on motion was referred to the council. (See page 244.)

The report of the Committee on Scientific Work was read by the chairman as follows:

REPORT OF COMMITTEE ON SCIENTIFIC WORK

The Committee on Scientific Work has endeavored to present a varied and interesting program. We believe it is too crowded but we could not refuse some of the requests especially from the younger members who submitted titles that promised to hold your interest. Our by-laws stipulate that the younger members shall be given preference in our scientific proceedings. We encountered our usual difficulty in obtaining papers from members living outside of the two large cities and getting more requests than could be accommodated from Kansas City and St. Louis. Your committee urges that the county medical societies give serious thought to this phase of their work and endeavor to induce some members to present a paper at our Annual Sessions.

We have separated the work of the House of Del-

legates from that of the scientific sessions as far as possible and we recommend that this custom be followed in the future. With both bodies in session at the same time it is impossible for the delegates to attend the scientific sessions and on the other hand many members who are not members of the House become interested in the proceedings of that body to the detriment of the general meetings.

We are pleased to announce that the Executive Committee authorized us to invite out of state physicians to be guests of our Association. Upon our request, the American Medical Association has sent us the president-elect of that body, Dr. Wm. Allen Pusey, of Chicago, to address us and your committee has invited the speaker of the House of Delegates of the A. M. A., Dr. F. C. Warnshuis, of Grand Rapids, Michigan, to be our guest. He will tell us something about the work of the House of Delegates. We have also invited Dr. W. E. Dandy, of Baltimore, a fellow Missourian who will tell us about his work in brain surgery. All of these gentlemen have accepted our invitations and are present or will arrive tomorrow.

Respectively submitted.

The Committee.

EMMETT P. NORTH,

FRANK I. RIDGE,

E. J. GOODWIN, Chairman.

Dr. Hamel moved that the report be accepted. Seconded and carried.

The Secretary informed the House that Dr. Herman E. Pearse, chairman of the Committee on Health and Public Instruction, was ill in a hospital in Kansas City and for that reason was unable to attend the meeting. Dr. Pearse desired the House to consider a proposition made by Dr. J. W. Love, of Springfield, on amendments to the medical practice act.

Dr. Love was called upon to present the subject, which he did.

On motion the proposition of Dr. Love was referred to the Council.

Dr. Hamel moved that a message of sympathy be sent to Dr. Pearse. Seconded and carried.

The President appointed a committee of three to formulate and forward the message to Dr. Pearse. The committee consisted of Drs. A. H. Hamel of St. Louis; J. Franklin Welch, Salisbury; E. J. Goodwin, St. Louis.

The Secretary informed the House that Dr. C. E. Hyndman, chairman of the Defense Committee, had wired that he was unable to be present at this Session on account of his presence in court. There being no other member of the Defense Committee present, the Secretary read the report of that committee as follows:

REPORT OF THE DEFENSE COMMITTEE

Cases pending May 8, 1923.....	24
New cases during year.....	19
Threats	2
Settled	18
Defendant deceased	3
Plaintiff deceased	1
Outlawed	1
Pending	18

Of the eighteen cases settled seven were dismissed account of lack of sufficient evidence, failure of plaintiff to appear, failure of plaintiff to file proper bond, etc.; three verdicts for the defendant and three verdicts for the plaintiff. Of the three verdicts for the plaintiff one was for \$1,000 in which the defendant took an appeal and the case was later settled out of court; one for \$200 which the defendant

paid rather than prolong the case, and one for \$500 which was settled out of court by plaintiff paying defendant's fee and half the court costs. Two were compromised, one by plaintiff giving defendant a statement absolving him from all negligence or damage done and defendant paying costs of suit, and one for \$1,000. Two were settled out of court and one settled by the insurance company after the judge had instructed the jury to dismiss for lack of evidence and case had been appealed.

Of the eighteen cases pending, two judgments for the plaintiff were rendered, one for \$4,500 and one for \$2,400. In both of these instances the defendants have taken an appeal.

In order for the defense committee to give our members the best service it is necessary that we have your co-operation in this work. In the event of the institution of a malpractice suit against you a copy of the plaintiff's petition and your conduct in the case should be sent immediately to the committee. It is also necessary that members be in good standing at the time suit is filed, otherwise the committee is prohibited by our by-laws from rendering any financial aid. Progress of suits should be reported to the committee and they should also be notified as soon as a case is closed.

It has been reported to the committee in several instances lately that some of our members have been instrumental in pushing malpractice suits against other members in their vicinity. The defense committee cannot be expected to render any assistance of importance if their defense is to be torn down by other members of the profession. This applies, of course, to such actions as are prompted by petty motives.

The committee at this time wishes to thank those members who have assisted us in defending these cases.

CHARLES E. HYNDMAN, Chairman,

ROBERT E. SCHLUETER,

RUDOLPH S. VITT.

The Defense Committee.

Dr. Hamel moved that the report be accepted. Seconded and carried.

There was no report from the Committee on Medical Education but Dr. A. H. Hamel, St. Louis, spoke on the matter of completing the four-year course in medicine at the state university. He said:

"Under this order of business I desire to discuss the question of medical education. I am extremely sorry our committee on medical education did not present a report. The work of the committee has always been very complete and most illuminating on the status of Missouri's medical education. This Association has stood for a complete medical curriculum by the State University and has repeatedly urged and gone on record by resolution to that end, many many times urging the curators to supply complete medical training as is being given in the arts, sciences, law, agriculture and engineering. I am sure that we as an Association are agreed that medical education in Missouri is the question of paramount importance. I, therefore, desire to bring to your attention certain facts concerning opportunity for matriculation of applicants in the medical schools of Missouri who possess all of the requisite premedical qualifications. It is an astonishing fact, gentlemen, that during the period of 1922-23, 1923-24, of the total number of applicants possessing complete premedical qualifications applying for matriculation at the Washington University and St. Louis University there were 203 qualified applicants who could not be admitted to the classes. I had a conference with Dr. McKim Marriot, Dean of Washington University Medical School, and Dr. Hanau W. Loeb, Dean of St. Louis University Medical School, when I submitted the fol-

lowing questions: How many applicants possessing the necessary premedical qualifications applied for admission to your classes during 1922-23, 1923-24? How many of this number were matriculated?

For Washington University Medical School, the following figures are significant: Admitted, 1922-23, 67; 1923-24, 77; total, 144. Total applicants, 347.

Thus it will be seen that there were 203 qualified applicants unable to pursue the study of medicine in Missouri. Dr. Marriot informed me that their extreme limit was 75 students per year, and also said that the requirements of admission at Washington University would grow worse rather than better. Dr. Hanau W. Loeb, Dean of St. Louis University Medical School, informed me that the St. Louis University had taken care of all qualified applicants and had matriculated 140 students in 1922-23 and 133 in 1923-24 and informed me that the maximum limit at St. Louis University would be 150 students per year. Then he informed me that the St. Louis University had up to this time taken care of all qualified junior and senior student applicants but from this year on they would not be in position to take more than 10 junior and senior students.

Gentlemen, there can be no question as to the pressing needs of medical education in Missouri. The outstanding question is, what is to become of our student body taking freshman and sophomore medical work at Missouri University? Where are they to go? Where should they go to complete their medical education? There can be only one answer to this question. They should be privileged to complete the full medical training at the Missouri University.

This brings us to the consideration of some concrete and definite action. There is a beginning to the full four years' course at Columbia. There is under process of erection a \$250,000 State General Hospital and no doubt that in the course of time, probably 25 years, we may succeed in getting sufficient legislative support and appropriation to build a full term medical course at Columbia but the fact remains that it will require time and money. It is estimated by competent authority that it will require a minimum of \$2,500,000 and many well informed minds are of the opinion that it will require \$5,000,000 to properly equip and maintain a high class medical department. Due to the fact that a full time faculty will have to be secured and the more important fact that the necessary clinical material must be had, disregarding the money cost, the two latter factors are almost insurmountable. I, therefore, feel, gentlemen, that I voice the opinion and sentiment of the great majority of the profession when I say that this question is urgent and is therefore paramount and the Missouri State Medical Association should say so in a most emphatic manner. I would, therefore, suggest that we go on record as urging the Board of Curators to establish full time medical education and place the medical department at Kansas City, Missouri, where all and every facility can be found for the highest type of medical training. At Kansas City will be found a high type of professional and teaching members of the medical profession, hospital facilities of the very best and clinical material in abundance; in fact every material needed to assure the very best in medical education. But the thing of greatest economic need is that the location of Kansas City is ideal. A high class faculty can be recruited promptly and there need not be so many full time departmental heads. If an outline of the above can be consummated by the Board of Curators a high class medical university can be established promptly with a very slight outlay of legislative appropriation. This it seems to me is the need, yes, the crying need in Missouri for the purpose of supplying our state university student body with a proper medical train-

ing and will prove a blessing to the citizens of our state."

Dr. Roland Hill, St. Louis, moved that the question be referred to the Council for Consideration and report to this body. Seconded and carried.

The Committee on Revision of the Constitution and By-Laws, Dr. M. P. Overholser, chairman, reported as follows:

The committee recommends that Article V of the constitution be amended to read as follows:

HOUSE OF DELEGATES

The House of Delegates shall be the legislative and business body of the Association and shall consist of (1) Delegates elected by the component county societies, (2) the presidents of the component county medical societies and, in the absence of the president, the secretary of the county medical society, and (3) ex-officio, the officers of this Association as described in this constitution.

This amendment consists in adding to the House of Delegates all the presidents of the local county societies, and in the absence of the president it permits the secretary of the county medical society to serve as delegate. This amendment is intended to give the county medical societies a greater representation in the House of Delegates. Last year at the Annual Meeting in Joplin more than fifty counties had no representation in the House of Delegates due to the fact that a number of county medical societies failed to elect delegates and a number of delegates did not attend the meeting. Thirty-four county medical societies have reported no delegates elected for this meeting.

Amend Chapter IV of the By-Laws by adding a new section to be known as Section 2a, as follows:

Section 2a. If a component county medical society is without representation at the close of the roll call of the second meeting of any session of the House of Delegates, then the members registered in attendance from that county may select from their number of delegates which such county is regularly entitled to elect. If but one member is registered from any county medical society he shall be seated in the House of Delegates as a representative of that county.

The purpose of this amendment is to give each county medical organization representation in the House of Delegates in the absence of the regularly elected delegates or the president or secretary of such county medical society.

Amend Chapter I of the By-Laws by adding a new section to be known as Section 4, as follows:

Membership in this Association shall continue only so long as the individual is a member of a component society. When the secretary shall be officially informed by the secretary of the component society through which a member holds membership in this Association that the member is not in good standing, the secretary shall remove the name of said member from the membership roll of the Missouri State Medical Association. A member of a component society who removes to and engages in the practice of medicine at a location in another county in which there is a component society shall forfeit his membership in this Association and the secretary shall remove his name from the roster of members of the Missouri State Medical Association unless within one year after such change of residence he become a member of the component society in the county in which he has moved.

The effect of this amendment is apparent to everybody.

Amend Chapter XII of the By-Laws by striking out all of Section 8, which reads:

When a member in good standing in a component society moves to another county in this state, his name upon request shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

The committee recommends striking out this section for the reason that he previous amendment largely covers this ground.

At the last Annual Session held at Joplin, May 8, 9, 10, 1923, your committee was instructed to bring to this body recommendations upon the method of electing the president of this organization. In the

matter of election of the President your committee can devise only three methods: one is the method under which we now operate of election by the House of Delegates; another is to revert to the old method of election on the floor of the General Meeting and the third is the following plan:

Nominations for President of the State Association shall be made by petition signed by not less than twenty members of the Association who are in good standing. These nominations by petition shall be in the hands of the state secretary by the first of January of each year.

After these nominations are verified by a committee consisting of the secretary of the State Association, chairman of the Council and the President of the State Association, the secretary of the State Association shall then notify the secretary and president of each county medical society the names of the nominees with a request that a ballot be taken by each and that the majority of votes cast for any one of the nominees will indicate the choice of the county society for president of the State Association.

The report of the ballot of each county society must be in the hands of the state secretary not later than the first of April of each year. The number of votes of all nominees receiving the majority of votes of any county society shall be recorded by the secretary of the State Association and after these votes are verified by the committee, consisting of the secretary of the State Association, chairman of the Council and the President of the State Association, the two nominees receiving the largest number of votes of the members of the county medical societies shall be declared the nominees for president. In case any nominee should receive the same number of votes of either of the two highest nominees, he also shall be entitled to nomination for president.

The members of the state organization shall then be notified of the nominees chosen, by publication of their names in the State Journal of the Association and also by notices sent to the president and secretary of each county medical society of the state by the secretary of the State Medical Association.

The election of the president from the nominees selected shall be in the hands of the members in attendance at the annual meeting. Each member as he registers will be given a ballot containing the names of the two candidates nominated and will be allowed the privilege of casting his ballot at any time during the session prior to 12 o'clock at noon on the last day of the annual meeting. The name of each member voting shall be recorded at the time he casts his ballot. Immediately after the ballot box closes the ballots will be counted by a committee appointed by the president of the Association and the candidate receiving the largest number of votes shall be declared elected president. In case no nominations are made by petition then the nominations for president shall be made on the floor of the general meeting at the time fixed by the House of Delegates.

It is the opinion of all the members of this committee that the general sessions of the Association are intended for scientific knowledge while to the House of Delegates is given the management of the business policy of the Association.

The election of president has nothing to do with the scientific program but does come under the question of policy affecting the Association and, therefore, should be settled by the representatives of the component societies in the session given over to this purpose:

1. This scheme is the one adopted by the parent body, the American Medical Association, and as far as we know there is no disposition to change it.

2. Any election in the General Assembly will necessarily give the cities an undue advantage from the fact that the country districts cannot and will not unite on any candidate while it would be an easy matter for any one seeking the office from the city to pack the convention with his friends and thereby favor a certain portion of the state to the detriment of the majority.

3. Our experience in the past has shown that an election on the floor of the General Assembly frequently results in a scramble, bad feeling and practices that bring the profession into disrepute with the general public who must necessarily hear, through the public press, of scrambles for positions that no dignified body such as our Association should countenance.

4. It is the opinion of the committee that this position should go as a reward for ability and long

service to the Association rather than to satisfy the ambition of any individual for preferment, and this we think can be accomplished far better in the manner in which it is now conducted than it could be if thrown into the general session.

For these reasons the committee recommends that no change be made in the by-laws concerning the election of the president.

The Committee:

M. P. OVERHOLSER, Chairman.

W. A. CLARK.

J. FRANKLIN WELCH.

The Secretary read the amendment to the constitution, which was introduced at the session in 1923, as follows:

AMENDMENT TO THE CONSTITUTION

Amend Article VIII, Section 2, of the constitution by striking out the word "five" in the sixth line and inserting the word "three" in lieu thereof, so that the section when amended shall read as follows:

Article VIII, Section 2. The presidents and vice presidents shall be elected for a term of one year. The secretary and the treasurer shall be elected by the Council at its annual meeting and each shall hold his office for one year. The councilors shall be elected for terms of three years each, being so divided that one-fourth of the number shall be elected each year. All these officers shall serve until their successors are elected and installed.

Dr. E. C. Witwer, Mountain Grove, moved that the amendment be amended by changing the election of the number of councilors from one-fourth to one-third. Seconded and carried.

Dr. Hamel moved that the consideration of the amendment be postponed until the afternoon session. Seconded and carried.

The President announced the committee on nominations: Dr. J. R. McVay, Chairman.

On motion adjourned.

Afternoon Session

The House of Delegates was called to order by the President at 3:00 p. m.

The report of the Council was read by the chairman, Dr. A. H. Hamel.

REPORT OF THE COUNCIL

While but two meetings of the executive committee were held during the past year many important questions were discussed by correspondence, telegram and telephone.

At the meeting of June 14, 1923, the president appointed Dr. R. A. Woolsey, of St. Louis, as delegate to the American Medical Association, at San Francisco, 1923, to take the place of Dr. J. Curtis Lyter, of St. Louis, who resigned, and Dr. J. W. Kimberlin, of Kansas City, in place of Dr. A. W. McAlester, of Kansas City, who was unable to attend. These appointments were approved by the executive committee.

A letter was received from a member inquiring as to whether or not it was ethical for a member limiting his practice to eye, ear, nose and throat work to have his name, address and specialty printed on eye glass cases. The committee ruled that it was not proper for our members to follow this practice.

The chairman of the subcommittee on the Veterans' Bureau sending World War veterans to chiropractic schools, and the Harrison Narcotic Law Regulations, reported that considerable progress was being made by that committee.

At the meeting of January 17, 1924, the committee was informed of a lawsuit against our Association, the American Medical Association, the Jackson County Medical Society and some members individually by the Kansas City University of Physicians

and Surgeons, for \$1,250,000 damages, claiming that our campaign to standardize medical schools had injured the school to that extent because it kept students away from the school. The attorney for our Association, Mr. Morton Jourdan, of St. Louis, advised that the case could be handled by an attorney in Kansas City who could represent the Associations involved and also the individual members without requiring the appearance of all. Mr. Jourdan approved Mr. Elliott H. Jones, of Kansas City, attorney for Jackson County Medical Society, as being quite capable of handling the case for us and the Secretary was instructed to go to Kansas City to confer with the officers of Jackson County Medical Society on the subject. The arrangements being agreeable to that body Mr. Jones was employed as counsel in this suit.

A letter was received from Dr. May Lyman Wilbur, President of the American Medical Association, in regard to the organization of a committee to take care of legislative matters. The Secretary was instructed to inform Dr. Wilbur that our Association had such a committee.

Surgeon General Ireland, of the United States Army, wrote asking the appointment of a military committee. On motion this subject was held over for the annual meeting of the House of Delegates.

A letter was received from Dr. W. C. Woodward, Secretary of the Bureau of Legal Medicine and Legislation of the American Medical Association, asking if we had an effective committee to consider legislation in Congress and if not, to appoint such a committee. The Secretary informed Dr. Woodward that we had such a committee in our Committee on Health and Public Instruction.

The Secretary of one of the component societies wrote concerning the dues of one of their members which had not been paid since 1919. This member had sent in a check for \$10 to pay for 1923 and 1924 and when requested by the secretary of the county society to pay dues for 1922 he stopped payment on the check for \$10 and notified his secretary that he would not release the check until it was accepted for 1923 and 1924. The executive committee instructed the secretary to notify the delinquent member that he must pay all arrears before he could be restored to good standing.

The secretary informed the committee that the St. Louis Medical Society had elected to membership a graduate of the St. Louis College of Physicians and Surgeons, 1922, who is a licentiate of the Connecticut Eclectic Board of Medical Examiners, whose name appeared among a published list of such licentiates and whose high school record was defective because according to that record he graduated from the high school when he was ten years old.

The Secretary also informed the committee of the election to membership in Randolph County of a graduate of the Kansas City College of Medicine and Surgery, 1922, who is a licentiate of the Connecticut Eclectic Board of Medical Examiners. Both men are licentiates of the Missouri State Board of Health. The Secretary was instructed to request Randolph County and St. Louis Medical Societies to make further investigation into the eligibility of the two members in question.

Permission to invite several out of state speakers for the 1924 Annual Session was granted to the Program Committee.

The question of a legislative agent for the Association was discussed and Mr. Wm. Condon, of St. Louis, was appointed to that position effective June 15, 1923, and to continue so far as funds were available.

The committee instructed the Secretary to call upon members to make voluntary contributions to the Public Health Fund.

The Council has approved a resolution to establish the clinical years of medicine at Kansas City under the direction and control of the State University and referred the resolution to the House of Delegates.

The Council approves the plan to collect funds for legislative work and continuation of the legislative representative.

Dr. J. R. McVay moved that the report be accepted. Seconded and carried.

A resolution on teaching the clinical years in medicine by the state university at Kansas City, presented by Dr. J. R. McVay, of Kansas City, to the Council which body approved the resolution and referred it to the House of Delegates, was read by the Secretary as follows:

CLINICAL TEACHING BY STATE UNIVERSITY AT KANSAS CITY

WHEREAS, The opportunity for the procuring of a medical education in the State University of Missouri has been removed since the abandonment of the last two years of teaching at Columbia, and

WHEREAS, The recognized need of the citizenry of Missouri, and especially of those dwelling in communities removed from the great centers of population for adequate and intelligent medical attendance is becoming more acute, and

WHEREAS, This crying need for more and better trained doctors to serve their communities is becoming more acute each year as death and retirement from active practice continue to remove those venerable in the service of their fellowmen as their family physicians, therefore be it

Resolved, By the Missouri State Medical Association in convention assembled that this Association heartily and unqualifiedly approves the movement toward the establishment of the clinical teaching of medicine of the last two years of the course to be given in Kansas City, Missouri, and respectfully urges and recommends that suitable action be taken by the legislature to the successful accomplishment of this purpose.

Dr. Roland Hill, St. Louis, moved that the resolution be approved. Seconded and carried.

The amendment to the constitution postponed from the morning session was read by the Secretary as follows:

Article VIII, Section 2. The president and vice presidents shall be elected for a term of one year. The secretary and the treasurer shall be elected by the Council at its annual meeting and each shall hold his office for one year. The councilors shall be elected for terms of three years each, being so divided that one-third of the number shall be elected each year. All these officers shall serve until their successors are elected and installed.

Dr. Breuer moved that the amendment be adopted. Seconded and carried.

The special committee appointed to send a message of sympathy to Dr. Herman E. Pearce reported that the following message had been transmitted by wire:

SPRINGFIELD, Mo., May 6, 1924.

DR. HERMAN E. PEARCE,
St. Mary's Hospital,
Kansas City, Mo.

The House of Delegates of the Missouri State Medical Association learns with deep regret of your illness and takes this opportunity to extend to you its sympathy and earnest wishes for your early recovery. Your long service and wise counsel in the work of the state medical association have impressed all members your great devotion to the interest of the organization and the protection of the public against illegal and incompetent practitioners and to raise the standard of medical education and medical practice.

J. FRANKLIN WELCH,
A. H. HAMEL,
E. J. GODWIN,

Committee House of Delegates.

The Secretary read a resolution from Dr. Franklin H. Martin, of Chicago, concerning the Gorgas Memorial Institute as follows:

RESOLUTION ON GORGAS MEMORIAL

WHEREAS, The life and achievements of the late William Crawford Gorgas have been to our members an inspiration to service for humanity, and

WHEREAS, The Gorgas Memorial Institute contemplates the establishment in his memory of a living working memorial in the form of,

(a) A Research Institute at Panama, for the study, prevention and cure of tropical diseases, and (b) the development of a national campaign under the supervision of the scientific medical profession for the purpose of improving and protecting the health of people everywhere, therefore be it

Resolved, In consideration of these facts, the Missouri State Medical Association, assembled at its annual convention at Springfield, May 6, 7, 8, hereby heartily endorses the plan to memorialize William Crawford Gorgas in the manner contemplated by the Gorgas Memorial Institute not only because it will constitute a worthy recognition of the character and achievements of our late colleague, but will be in effect a memorial to the efficiency and importance of medical science in world progress.

Dr. Spence Redman, Platte City, moved that the resolution be adopted. Seconded and carried.

The Secretary read a resolution from the Near East Relief as follows:

RESOLUTION ON NEAR EAST RELIEF

WHEREAS, The Near East Relief has been the agency through which the American people have gathered and administered between sixty-five and eighty-five million dollars in cash and materials, and,

WHEREAS, Through the administration of our bounty the Near East Relief has saved more than a million lives, and,

WHEREAS, Among those saved were more than one hundred thousand children, and,

WHEREAS, There are still in the orphanages of the Near East Relief between fifty and sixty thousand children who are without known relatives, and who are for the most part between the ages of four and twelve, and,

WHEREAS, It is still necessary that these children be fed, clothed, sheltered and trained for self-support, and,

WHEREAS, To discontinue the support which has been given this work would mean that many of these orphans would have to be let go which in many cases would mean death, and,

WHEREAS, To continue their support until these children reach the age of self-support is to do the greatest thing imaginable toward building a New Near East, therefore be it

Resolved, That the House of Delegates of the Missouri State Medical Association in convention assembled recommend to its members that they give the Near East Relief work their sympathetic and hearty co-operation and their substantial financial support until this task is finished.

On motion the resolution was adopted.

The Secretary read a communication from Surgeon-General Ireland requesting the appointment of a committee of five to serve as a medium of contact between the State Medical Association and the United States Army.

Dr. J. R. McVay, of Kansas City, moved that the President be authorized to appoint this committee. Seconded and carried.

The Secretary read a letter from Dr. George C. Mosher, of Kansas City, as follows:

DR. G. WILSE ROBINSON,
937 Rialto Bldg.,
Kansas City, Mo.

DEAR DOCTOR ROBINSON:

The State Board of Health has by request of the obstetricians of Missouri named a Committee of Regional Consultants in Obstetrics which will co-operate with the Board through its efficient Director of Maternal Welfare, Dr. Irl Brown Krause, and endeavor to improve our mortality statistics by the effort to have Missouri included in the Birth Registration Area which now comprises four-fifths of the states.

Also, we hope to stimulate the various county societies to take more interest in the subject of papers on obstetrics. A preliminary meeting will be held Wednesday, May 7.

It is also hoped, in view of the fact that only one paper on obstetrics is offered at the present meeting, that a section on obstetrics and gynecology can be organized as a part of the activities of the State Association.

Will you please announce that all members who are interested in the organization of the section can signify their intention by handing their names to Dr. Goodwin, our Secretary, or to the undersigned.

Very truly yours,

(Signed) GEO. CLARK MOSHER.

The President announced that no action was needed on the letter.

The Secretary read a telegram from the Woman's Auxiliary of the American Medical Association as follows:

HOUSTON, TEX., May 2, 1924.
DR. G. WILSE ROBINSON,
937 Rialto Bldg.,
Kansas City, Mo.

Will you authorize Mrs. Willard Bartlett of St. Louis to organize Woman's Auxiliary to the Missouri State Medical Association meeting in Springfield on Seventh of May also to act as state representative on executive board of Woman's Auxiliary American Medical Association.

Mrs. S. C. RED, President, Woman's Auxiliary A. M. A.

Dr. Carroll Smith, St. Louis, moved that the House of Delegates endorse the organization of a Missouri Woman's Auxiliary and that Mrs. Willard Bartlett be authorized to proceed with the organization and represent Missouri on the executive committee of the national Woman's Auxiliary. Seconded and carried.

The selection of the next place of meeting brought an invitation from Jackson County Medical Society presented by Dr. C. B. Francisco to hold the 1925 session in Kansas City. The invitation was supplemented by invitations from the Chamber of Commerce and other civic bodies at Kansas City.

Dr. C. H. Wallace, St. Joseph, moved that Kansas City be selected as the place of meeting for the 1925 session. Seconded and carried.

On motion adjourned.

Wednesday, May 7, 1924

The third meeting of the House of Delegates was called to order by the President, Dr. G. Wilse Robinson, in the corridor of the Shrine Mosque at Springfield, May 7, 1924, at 2:00 p. m.

Dr. E. H. Miller, of Liberty, moved that the reading of the minutes of the previous meeting be dispensed with. Seconded and carried.

As ordered by the House of Delegates at the previous session, the president announced the appointment of the following committee to serve as a medium of contact between our Association and the Surgeon General of the United States Army: J. R. McVay, of Kansas City, chairman; H. Unterberg, of St. Louis; K. W. Kinard, of Kansas City; A. R. McComas, of Sturgeon.

The report of the nominating committee was read by Dr. J. R. McVay, chairman, as follows:

For first vice president: C. B. Francisco, Kansas City; for second vice president, H. L. Kerr of Crane; third vice president, E. C. Shelton, Eldon; fourth vice president, E. L. Spence, Kennett; fifth vice president, Jules M. Brady of St. Louis.

For delegates to the American Medical Association: G. Wilse Robinson, Kansas City; alternate, F. M. McCallum, Kansas City. Delegate, W. J. Ferguson, Sedalia; alternate, A. J. Campbell, Sedalia; alternate for Emmett P. North, St. Louis, J. H. Timberman, Chillicothe; alternate for J. Curtis Lyter, St. Louis, E. Lee Dorsett, St. Louis.

For the Committee on Health and Public Instruction: E. E. Brunner, of Marshall; Wm. H. Vogt, St. Louis.

Committee on Defense: Charles E. Hyndman, R. E. Schlueter, R. S. Vitt.

Committee on Cancer, E. D. Twyman, Kansas City; Malvern B. Clopton, St. Louis; C. A. Good, St. Joseph.

Committee on Vaccination: Joseph Grindon, St. Louis; T. W. Twyman, Independence; H. W. Carle, of St. Joseph.

District	COUNCILORS	Years
1st	Austin McMachael, Rockport.....	3
2nd	H. S. Conrad, St. Joseph.....	3

District	COUNCILORS	Years
3rd	A. H. Vandivert, Bethany.....	1
4th	Geo. M. Bristow, Princeton.....	3
5th	J. R. Bridges, Kahoka.....	3
6th	J. W. Martin, Kirksville.....	1
7th	T. J. Downing, New London.....	3
8th	B. P. Wentker, St. Charles.....	1
9th	A. R. McComas, Sturgeon.....	3
10th	D. A. Barnhart, Huntsville.....	3
11th	G. W. Hawkins, Salisbury.....	3
12th	Spence Redman, Platte City.....	3
13th	Geo. E. Bellows, Kansas City.....	1
14th	C. T. Ryland, Lexington.....	2
15th	L. J. Schofield, Warrensburg.....	3
16th	T. B. Craig, Nevada.....	2
17th	Guy Titsworth, Sedalia.....	2
18th	J. P. Burke, California.....	2
19th	C. F. Enloe, Jefferson City.....	1
20th	A. H. Hamel, St. Louis.....	2
21st	T. F. Estel, Altenburg.....	1
22nd	H. L. Reid, Charleston.....	1
23rd	T. J. Rigdon, Kennett.....	2
24th	T. W. Cotton, Van Buren.....	2
25th	R. W. Gay, Ironton.....	1
26th	W. H. Breuer, St. James.....	2
27th	J. C. B. Davis, Willow Springs.....	2
28th	A. L. Anderson, Springfield.....	2
29th	R. L. Wills, Neosho.....	1

J. R. McVAY, Chairman.
E. LEE DORSETT, Secretary.

On motion the report was adopted.

Dr. A. H. Hamel, of St. Louis, informed the House that he desired to withdraw his name as Councilor of the 20th District. Dr. Roland Hill, of St. Louis, moved that Dr. R. E. Schlueter, of St. Louis, be nominated as Councilor for the 20th District to fill the place vacated by Dr. Hamel. Seconded and carried.

The election of the president was the next order of business and Dr. W. H. Breuer, of St. James, nominated Dr. W. A. Clark, of Jefferson City, for president, Dr. Claude J. Hunt, of Kansas City, seconded the nomination. Dr. A. H. Hamel, of St. Louis, moved that the nominations be closed and that Dr. Clark be elected by a rising unanimous vote. This motion carried and Dr. Clark was duly elected president of the Association for the ensuing year. The president appointed Dr. Breuer and Dr. Hamel a committee to escort the newly elected president to the chair. Dr. Clark addressed the House of Delegates and in accepting the presidency thanked the members for the honor conferred upon him.

Dr. H. S. Dowell, of Braymer, informed the House that there resides in Missouri in the town of Breckenridge, Caldwell County, the oldest physician in the world, Dr. Joseph Halstead, whose life as a physician and citizen has been a credit to the community in which he lived and an honor to the profession. Dr. Dowell moved that the House of Delegates elect Dr. Halstead an Honor Member of the Association and that a telegram of congratulations be forwarded to him. The motion was seconded and carried and the Secretary was instructed to send the telegram to Dr. Halstead.

The Secretary read the following amendment to the by-laws introduced in the previous session:

Amend Chapter IV of the by-laws by adding a new section, Section 2a.

Section 2a. If a component county medical society is without representation at the close of the roll call of the second meeting of any session of the House of Delegates then the members registered in attendance from that county may select from their number the number of delegates which such county is regularly entitled to elect. If but one member is registered from any county medical society he shall be seated in the House of Delegates as a representative of that county.

On motion the amendment was adopted.

The Secretary read the following amendment to the by-laws, which was introduced at the previous session:

Amend Chapter I of the by-laws by adding a new section to be known as Section 4, as follows:

Membership in this Association shall continue only so long as the individual is a member of a component society. When the Secretary shall be officially informed by the secretary of the component society through which a member holds membership in this Association that the member is not in good standing, the Secretary shall remove the name of said member from the membership roll of the Missouri State Medical Association. A member of a component society who removes to and engages in the practice of medicine at a location in another county in which there is a component society shall forfeit his membership in this Association and the Secretary shall remove his name from the roster of members of the Missouri State Medical Association unless within one year after such change of residence he become a member of the component society in the county in which he has moved.

Dr. E. C. Witwer, of Mountain Grove, moved the adoption of the amendment. Seconded and carried.

The Secretary read the following amendment to the by-laws introduced at the previous session:

Amend Chapter XII of the by-laws by striking out all of Section 8, as follows:

"When a member in good standing in a component society moves to another county in this state, his name upon request shall be transferred without cost to the roster of the county society into whose jurisdiction he moves."

On motion this by-law was repealed.

A discussion of legislative matters was indulged in by various members of the House, after which Dr. Hamel moved that Mr. Wm. Condon be invited to address the House concerning a movement on foot by the chiropractors and other in circulating a petition pledging members of the next legislature to favor chiropractic and other limited methods of healing. No action was taken.

On motion adjourned.

MINUTES OF THE COUNCIL

West Corridor, Shrine Mosque

Tuesday, May 6, 1923

The Annual Meeting of the Council was held in the Corridor of the Shrine Mosque, Springfield, May 6, 1924, and called to order by the chairman, Dr. A. H. Hamel, of St. Louis, at 1:30 p. m.

At roll call, sixteen members responded as follows.

- 1st District, Austin McMichael, Rockport.
- 2nd District, H. S. Conrad, St. Joseph.
- 9th District, A. R. McComas, Sturgeon.
- 10th District, Don A. Barnhart, Huntsville.
- 11th District, G. W. Hawkins, Salisbury.
- 12th District, Spence Redman, Platte City.
- 14th District, C. T. Ryland, Lexington.
- 15th District, L. J. Schofield, Warrensburg.
- 16th District, T. B. M. Craig, Nevada.
- 17th District, Guy Titsworth, Sedalia.
- 20th District, A. H. Hamel, St. Louis.
- 24th District, T. W. Cotton, Van Buren.
- 26th District, W. H. Breuer, St. James.
- 27th District, J. C. B. Davis, Willow Springs.
- 28th District, A. L. Anderson, Springfield.
- 29th District, R. L. Wills, Neosho.

Dr. Breuer moved that the reading of the minutes of the last Annual Meeting be dispensed with as they had already been published in THE JOURNAL. Seconded and carried.

Dr. Hamel read the report of the Executive Committee as follows:

REPORT OF THE EXECUTIVE COMMITTEE

While but two meetings of the executive committee were held during the past year many important

questions were discussed by correspondence, telegram and telephone.

At the meeting of June 14, 1923, the president appointed Dr. R. A. Woolsey, of St. Louis, as delegate to the American Medical Association, at San Francisco, 1923, to take the place of Dr. J. Curtis Lyter, of St. Louis, who resigned, and Dr. J. W. Kimberlin, of Kansas City, in place of Dr. A. W. McMaster, of Kansas City, who was unable to attend. These appointments were approved by the executive committee.

A letter was received from a member inquiring as to whether or not it was ethical for a member limiting his practice to eye, ear, nose and throat work to have his name, address and specialty printed on eye glass cases. The committee ruled that it was not proper for our members to follow this practice.

The chairman of the subcommittee on the Veterans' Bureau sending World War Veterans to Chiropractic Schools, and the Harrison Narcotic Law Regulations, reported that considerable progress was being made by that committee.

At the meeting of January 17, 1924, the committee was informed of a law suit against our Association, the American Medical Association, the Jackson County Medical Society and some members individually by the Kansas City University of Physicians and Surgeons, for \$1,250,000 damages, claiming that our campaign to standardize medical schools had injured the school to that extent because it kept students away from the school. The attorney for our Association, Mr. Morton Jourdan, of St. Louis, advised that the case could be handled by an attorney in Kansas City who could represent the Associations involved and also the individual members without requiring the appearance of all. Mr. Jourdan approved Mr. Elliott H. Jones, of Kansas City, attorney for Jackson County Medical Society, as being quite capable of handling the case for us and the Secretary was instructed to go to Kansas City to confer with the officers of Jackson County Medical Society on the subject. The arrangements being agreeable to that body, Mr. Jones was employed as counsel in this suit.

A letter was received from Dr. Ray Lyman Wilbur, President of the American Medical Association, in regard to the organization of a committee to take care of legislative matters. The Secretary was instructed to inform Dr. Wilbur that our Association had such a committee.

Surgeon General Ireland, of the United States Army, wrote asking the appointment of a military committee. On motion this subject was held over for the annual meeting of the House of Delegates.

A letter was received from Dr. W. C. Woodward, Secretary of the Bureau of Legal Medicine and Legislation of the American Medical Association, asking if we had an effective committee to consider legislation in Congress and if not, to appoint such a committee. The Secretary informed Dr. Woodward that we had such a committee in our Committee on Health and Public Instruction.

The secretary of one of the component societies wrote concerning the dues of one of their members which had not been paid since 1919. This member had sent in a check for \$10 to pay for 1923 and 1924 and when requested by the secretary of the county society to pay dues for 1922 he stopped payment on the check for \$10 and notified his secretary that he would not release the check until it was accepted for 1923 and 1924. The executive committee instructed the secretary to notify the delinquent member that he must pay all arrears before he could be restored to good standing.

The secretary informed the committee that the St. Louis Medical Society had elected to membership a

graduate of the St. Louis College of Physicians and Surgeons, 1922, who is a licentiate of the Connecticut Eclectic Board of Medical Examiners, whose name appeared among a published list of such licentiates and whose high school record was defective because according to that record he graduated from the high school when he was ten years old.

The Secretary also informed the committee of the election to membership in Randolph County of a graduate of the Kansas City College of Medicine and Surgery, 1922, who is a licentiate of the Connecticut Eclectic Board of Medical Examiners. Both men are licentiates of the Missouri State Board of Health. The Secretary was instructed to request Randolph County and the St. Louis Medical Societies to make further investigation into the eligibility of the two members in question.

Permission to invite several out of state speakers for the 1924 Annual Session was granted to the Program Committee.

The question of a legislative agent for the Association was discussed and Mr. Wm. Condon, of St. Louis, was appointed to that position effective June 15, 1923, and to continue so far as funds were available.

The committee instructed the Secretary to call upon members to make voluntary contributions to the Public Health Fund.

Dr. Redman moved that the report be received. Seconded and carried.

After a discussion upon the question of raising money for the legislative fund Dr. Breuer moved that the collection of money for the legislative fund be continued and the executive committee be empowered to arrange for solicitation of contributions to the fund from members of the Association, and that the employment of the legislative agent be continued. Seconded and carried.

The report of the Secretary referred from the House of Delegates was read and on motion received.

The chairman appointed the following councilors on the auditing committee: W. H. Breuer, Spence Redman and Don A. Barnhart.

The treasurer's report referred from the House of Delegates was read and on motion received.

The Secretary read some correspondence relating to the membership of a graduate of the Kansas City College of Medicine and Surgery, 1922, and a licentiate of the Eclectic Board of Medical Examiners of Connecticut. The Secretary stated that he had not accepted the application, pending the investigation by the Council although Randolph County Medical Society and individual members of that society recommended the applicant as a thoroughly eligible candidate.

Dr. Barnhart, Councilor for the 10th District, was called upon and reported that he considered the applicant a thoroughly reliable man and believed he had attended the medical courses faithfully and recommended that he be accepted as a member.

Dr. Breuer moved that the application for membership be accepted and that Randolph County be notified of his acceptance as a member of the State Association. Seconded and carried.

The secretary read some correspondence on the matter of accepting for membership a graduate of the St. Louis College of Physicians and Surgeons, 1922, a licentiate of the Eclectic Medical Board of Connecticut, elected a member of the St. Louis Medical Society. He stated that his credentials showed a discrepancy in preliminary education which indicated that the applicant had graduated from the high school at the age of ten or eleven years.

Dr. Breuer moved that since the records were not satisfactory to the State Medical Association, the

matter be referred back to the St. Louis Medical Society. Seconded and carried.

The following resolution was read by J. R. McVay, of Kansas City, regarding the establishment of the four years' course in medicine at the State University:

CLINICAL TEACHING BY STATE UNIVERSITY AT KANSAS CITY

WHEREAS, The opportunity for the procuring of a medical education in the State University of Missouri has been removed since the abandonment of the last two years of teaching at Columbia, and

WHEREAS, The recognized need of the citizenry of Missouri, and especially of those dwelling in communities removed from the great centers of population for adequate and intelligent medical attendance is becoming more acute, and

WHEREAS, This crying need for more and better trained doctors to serve their communities is becoming more acute each year as death and retirement from active practice continue to remove those venerable in the service of their fellow-men as their family physicians, therefore be it

Resolved, By the Missouri State Medical Association in convention assembled, that this Association heartily and unqualifiedly approves the movement toward the establishment of the clinical teaching of medicine of the last two years of the course to be given in Kansas City, Missouri, and respectfully urges and recommends that suitable action be taken by the legislature to the successful accomplishment of this purpose.

The question was discussed by F. I. Ridge, of Kansas City, and Emmett P. North, of St. Louis. The remarks of Dr. Hamel on this subject, delivered in the House of Delegates, were read by the Secretary.

On motion the resolution introduced by Dr. McVay was approved and referred to the House of Delegates.

The amendments to the Medical Practice Act introduced in the House of Delegates by J. W. Love, of Springfield, and referred to the Council, were taken up and Dr. Love was invited to address the Council on the subject. After a general discussion Dr. Breuer moved that the entire matter be referred to the Committee on Health and Public Instruction.

On motion adjourned.

Afternoon Session

The Council was called to order by the chairman at 3:30 p. m., Wednesday, May 7, 1924.

At roll call seventeen members responded.

Dr. T. W. Cotton, of Van Buren, Councilor of the 24th District, reported on the condition of the counties in his district.

The Auditing Committee reported as follows:

REPORT OF AUDITING COMMITTEE

We, your auditing committee, have examined the books of the Treasurer and checked them against the receipted vouchers, and find the following amount in the various funds:

Defense Fund.....	\$1,559.27
General Fund.....	5,486.60
Legislative Fund.....	1,373.75
Sinking Fund.....	622.57
Total Balance.....	\$9,042.19

We also checked the books of the Treasurer with those of the Secretary and find that they correspond.

W. H. BREUER, Chairman,
D. A. BARNHART,
SPENCE REDMAN,
Auditing Committee.

On motion the report was adopted.

The election of officers resulted as follows:

Chairman of the Council, A. R. McComas, Sturgeon.

Secretary of the Council, E. J. Goodwin, St. Louis, re-elected.

Treasurer of the Association, J. Franklin Welch, Salisbury, re-elected.

Secretary-Editor of the Association, E. J. Goodwin, St. Louis, re-elected.

On motion adjourned.

MINUTES OF THE GENERAL MEETING

Auditorium, Shrine Mosque

Wednesday, May 7, 1924—Morning Session

The Sixty-seventh Annual Meeting of the Missouri State Medical Association was held in Springfield, May 6, 7, and 8, 1924, the first scientific session being called to order in the Shrine Mosque at nine o'clock Wednesday morning, May 7, by the President, Dr. G. Wilse Robinson, of Kansas City.

Dr. Dan G. Stine, Columbia, read a paper entitled "Influence of the Etiology Upon the Treatment of Pneumonia." This paper was discussed by Drs. Walter Baumgarten, St. Louis; John F. Chandler, Oregon; Park J. White, St. Louis, and the discussion closed by Dr. Stine.

Dr. W. H. Olmsted, St. Louis, read a paper entitled "Some Practical Suggestions in the Use and Administration of Insulin." This paper was discussed by Drs. Donald R. Black, Kansas City; P. J. White, St. Louis, and the discussion closed by Dr. Olmsted.

Dr. O. P. J. Falk, St. Louis, read a paper entitled "The Treatment of Nephritis Based on Underlying Pathology." This paper was discussed by Drs. J. C. Lyter, St. Louis; Elsworth S. Smith, St. Louis, and the discussion closed by Dr. Falk.

Dr. Donald R. Black, Kansas City, read a paper entitled "Studies in Gout." This paper was discussed by Dr. W. H. Olmsted, St. Louis.

Dr. Ralph A. Kinsella, St. Louis, read a paper entitled "The Treatment of Gonorrheal Rheumatism." There was no discussion of this paper.

Dr. Paul B. Stookey, Kansas City, read a paper entitled "Treatment of Cardiovascular Leses." This paper was discussed by Drs. Frank I. Ridge, Kansas City; Claude J. Hunt, Kansas City, and Elsworth S. Smith, St. Louis.

The session adjourned until one-thirty.

Afternoon Session

The afternoon session was called to order at one-forty-five by the President, Dr. G. Wilse Robinson.

Dr. R. S. Tilles, St. Louis, read a paper entitled "The Essentials of a Gynecological Examination." This paper was discussed by Drs. E. L. Dorsett, St. Louis; George C. Mosher, Kansas City; Hudson Talbott, St. Louis, and the discussion closed by Dr. Tilles.

Dr. George Clark Mosher, Kansas City, read a paper entitled "The Methods of Reducing Maternal Mortality." This paper was discussed by Drs. R. S. Tilles, St. Louis; Wm. H. Vogt, St. Louis; C. T. Ryland, Lexington; Edward W. Saunders, St. Louis; E. L. Dorsett, St. Louis, and the discussion closed by Dr. Mosher.

Dr. T. Wistar White, St. Louis, read a paper entitled "Some Experiences with Meningitis with Report of a New Sign." There was no discussion of this paper.

Dr. Frank C. Neff, Kansas City, read a paper entitled "The State-Wide Prevention of Diphtheria." This paper was discussed by Drs. J. T. Hornback, Nevada; John Zahorsky, St. Louis; P. J. White, St. Louis; Jules M. Brady, St. Louis, and the discussion closed by Dr. Neff.

Dr. Park J. White, St. Louis, read a paper entitled "Parenteral Infections as a Factor in the Production of Autonomic Imbalance in Infants." This paper was discussed by Drs. Frank C. Neff, Kansas City; John Zahorsky, St. Louis; Jules M. Brady, St. Louis; Edward W. Saunders, St. Louis, and the discussion closed by Dr. Park J. White.

Dr. John Zahorsky, St. Louis, read a paper entitled "Practical Experience With Quartz Light in Diseases

of Children." There was no discussion of this paper. Adjournment until Thursday morning.

Thursday, May 8, 1924—Morning Session

The session was called to order at nine-thirty by the President, Dr. G. Wilse Robinson.

Dr. Claude J. Hunt, Kansas City, read a paper entitled "Medical and Surgical Problems in Peptic Ulcer." This paper was discussed by Dr. J. R. McVay, Kansas City.

Dr. Charles E. Hyndman, St. Louis, read a paper entitled "Acute Surgical Abdomen." This paper was discussed by Drs. W. T. Coughlin, St. Louis; Carroll Smith, St. Louis, and the discussion closed by Dr. Hyndman.

Dr. W. E. Dandy, Baltimore, Maryland, read a paper entitled "X-Ray Localization of Brain Tumors by Air Injection of Ventricles." This paper was discussed by Drs. W. T. Coughlin, St. Louis; Ernest Sachs, St. Louis; Hillel Unterberg, St. Louis; Wm. F. Reinhoff, Springfield; and the discussion closed by Dr. W. E. Dandy.

The session adjourned until one-thirty.

Afternoon Session

The Thursday afternoon session was called to order at one-thirty by the president, Dr. G. Wilse Robinson.

Dr. W. T. Coughlin, St. Louis, read a paper entitled "Repair of Deformities Caused by Burns." This paper was discussed by Drs. Ellis Fischel, St. Louis; F. J. Tainter, St. Louis, and the discussion closed by Dr. Coughlin.

Dr. Clinton K. Smith, Kansas City, read a paper entitled "Stone in the Ureter." This paper was discussed by Dr. Bransford Lewis, St. Louis, and by Dr. Smith in closing.

Dr. Bransford Lewis, St. Louis, read a paper entitled "Urologic Diagnosis for the General Practitioner." There was no discussion of this paper.

Dr. R. J. Payne, St. Louis, read a paper entitled "The Injection of the Nasal Ganglion in Hay Fever." This paper was discussed by Drs. E. R. Van Meter, St. Louis; William W. Duke, Kansas City.

Dr. William W. Duke, Kansas City, read a paper entitled "Common Manifestations of Allergy Observed in Clinical Practice." This paper was discussed by Dr. R. J. Payne, St. Louis.

Dr. Ralph H. Major, Kansas City, read a paper entitled "Creatinin Test for Renal Function." This paper was discussed by Dr. Clinton K. Smith, Kansas City, and the discussion closed by Dr. Major.

Dr. Paul C. Schnoeblen, St. Louis, read a paper entitled "The Management and Clinical Results of Deep Therapy in Tumors of the Bladder and Prostate." This paper was discussed by Dr. Edwin C. Ernst, St. Louis.

Dr. Ray C. Lounsberry, Springfield, read a paper entitled "The Treatment of Superficial Skin Cancer by Electrocoagulation in Conjunction with Quartz Light Therapy." There was no discussion of this paper.

On motion the 1924 meeting adjourned *sine die*.

SOCIETY OF MEDICAL SECRETARIES

Sixteenth Annual Session

Springfield, May 7, 1924

The sixteenth annual meeting of the Missouri Society of Medical Secretaries was held in The Ordinary of the Colonial Hotel, Springfield, May 7, 1924. Luncheon was served at 12:15 p. m. In the absence of the president, Dr. J. I. Tyree, the secretary, Dr. J. T. Hornback, opened the meeting and addressed the gathering with a few words of welcome.

Dr. G. Wilse Robinson, of Kansas City, president of the State Medical Association, gave a very interesting address on "Doctors in Politics," calling attention to the good work done by the late Dr. Allee and the work now being done by Dr. Royal S. Copeland in the United States Senate, making it plain to his audience that the time had arrived for the doctors to quit telling others what ought to be done and get into the fray and do these things themselves.

Dr. M. P. Overholser, of Harrisonville, spoke on "County Co-operative Meetings," calling attention to the noticeable increase in the interest of county medical societies and touched on the activity manifested by our members on Amendment No. 5 in the election last February. Dr. Overholser pointed out the direct relationship of the county society activities with the state association's progress. He followed this with an outline of the work accomplished in his district where the members of six county medical societies have pledged themselves to the work of building up the inactive societies in that district. At these county co-operative meetings clinics are held and lectures and X-ray demonstrations given. The attendance is unusually good and every one feels that he is rewarded for the time spent.

Dr. Overholser's talk provoked quite a discussion and opened up a new line of thought to the members who are desirous of maintaining the interest in the work ahead of us.

The election of officers was the next order of business and resulted as follows: President, Dr. Claude J. Hunt, of Kansas City; vice president, Dr. Austin McMichael, of Rockport; secretary, Dr. J. T. Hornback, of Nevada.

Those present at the meeting were: Drs. D. C. Adams, Aurora; John F. Chandler, Oregon; F. L. McCormick, Moberly; F. H. Brown, Billings; W. E. Koppenbrink, Higginsville; Austin McMichael, Rockport; N. W. Jarvis, Festus; W. N. O'Bannon, New Madrid; Robert W. Kennedy, Marshall; Everett A. Oliver, Richland; N. I. Stebbens, Clinton; W. H. Breuer, St. James; Don A. Barnhart, Huntsville; J. Franklin Welch, Salisbury; G. T. Meyers, Macks Creek; J. A. McComb, Lebanon; M. P. Overholser, Harrisonville; E. Claude Bohrer, West Plains; T. F. Lockwood, Butler; W. A. Delzell, Springfield; Spence Redman, Platte City; Roland Hill, St. Louis; J. H. Timberman, Chillicothe; Claude J. Hunt, Kansas City; G. Wilse Robinson, Kansas City; J. A. Townsend, House Springs; Mrs. J. A. Townsend, House Springs; Miss Alma Kingston, St. Louis; Mrs. Pearl Lutz, St. Louis.

REPORT OF THE TREASURER

General Fund

Receipts

Balance, May 1, 1923.....	\$ 3,469.69
Amount received from advertising.....	7,349.89
Amount received from Am. Med. Assn.....	250.00
Interest on daily balance.....	75.00
Dues from County Societies.....	17,123.00
Total	\$28,267.58

Disbursements

Transferred to Legislative Fund.....	\$ 3,420.00
Warrants properly endorsed.....	19,360.98
Balance May 1, 1924.....	5,486.60
Total	\$28,267.58

Defense Fund*Receipts*

Balance May 1, 1923.....	\$ 2,065.52
Interest on daily balance.....	51.00

\$ 2,116.52*Disbursements*

May 30, 1923, Dr. G. B. Schulz.....	\$ 100.00
May 30, 1923, Chas. A. Orr.....	100.00
Nov. 14, 1923, S. W. Chandler.....	100.00
Jan. 11, 1924, G. H. Graham.....	57.25
Jan. 11, 1924, L. T. Dunaway.....	100.00
Jan. 11, 1924, Harold Bailey.....	100.00
Balance May 1, 1924.....	1,559.27

Total\$ 2,116.52**Sinking Fund***Receipts*

Balance May 1, 1923.....	\$ 604.57
Interest on daily balance.....	18.00

Total\$ 622.57*No Disbursements*

Balance May 1, 1924.....	\$ 622.57
--------------------------	-----------

Legislative Fund*Receipts*

Balance May 1, 1923.....	\$ 539.23
Transferred from General Fund.....	3,420.00
Interest on daily balance.....	14.40

Total\$ 3,973.63*Disbursements*

William Condon salary.....	\$ 2,170.50
May 18, 1923, J. D. Brummall, Leg. exp.....	6.00
May 18, 1923, E. H. Skinner, Leg. exp.....	44.76
May 30, 1923, L. C. Chenoweth, Leg. exp.....	20.02
June 25, 1923, H. E. Pearse, Leg. exp.....	50.00
June 29, 1923, Madison Hotel J. C.....	12.75
July 14, 1923, Madison Hotel J. C.....	14.75
July 14, 1923, H. E. Pearse Leg. Exp.....	29.58
Sept. 16, 1923, H. E. Pearse, Leg. exp.....	38.15
Jan. 22, 1924, Assn. Constitution Amdt.....	150.00
Feb. 26, 1924, Ross-Gould & Co.....	63.35
Balance May 1, 1924.....	1,373.75

Total\$ 3,973.63*Recapitulation.*

General Fund.....	\$ 5,486.60
Defense Fund.....	1,559.27
Sinking Fund.....	622.57
Legislative Fund.....	1,373.75

Total\$ 9,042.19**REPORT OF THE SECRETARY****The Constitutional Convention**

The Constitutional Convention adjourned in October, 1923, having adopted Amendment No. 5, requiring the General Assembly to provide means for the protection of the public health and welfare. Throughout the session there was strong and continued opposition to the amendment and numerous attempts made to alter the phraseology so as to defeat the purpose of the amendment. This opposition came from the class of persons well known to us who appear at every session of the legislature with

financial backing to prevent the passage of bills that would elevate the standard of medical practice. The Christian Scientists, the chiropractors, the League for Medical Freedom, drugless healers, mental therapists and that ilk were very active in their opposition to Amendment No. 5. However, through the strenuous work of Mrs. Walter McNabb Miller, a member of the Convention, and with the co-operation of our committee on health and public instruction and the assistance of many members of our Association the amendment was adopted and submitted to the people at the election on February 26, 1924. It was defeated.

The Damage Suit

On December 26, 1923, suit was filed at Independence, the county seat of Jackson County, against our Association, the Jackson County Medical Society, the State Board of Health, the American Medical Association and several members of our Association as individuals by the Kansas City University of Physicians and Surgeons, A. L. McKenzie, dean, for \$1,250,000 for damages claimed to have been sustained on account of our activities in raising the standard of educational requirements of medical students and higher standards of medical schools. The suit is pending. Our attorney is now taking depositions preparatory to trial. On the recommendation of our attorney, Mr. Morton Jourdan, Mr. Elliott H. Jones, of Kansas City, attorney for Jackson County Medical Society, was employed to defend us and Attorney General Barrett is co-operating with him.

Diploma Mill

The exposure of the traffic in medical diplomas and high school certificates by the St. Louis *Star* last October became a nation wide scandal. The Eclectic Licensing Boards of Connecticut and Arkansas have proven guilty of at least loose methods in giving licenses to persons holding diplomas from low grade schools in Missouri, Washington and Massachusetts. Our State Board of Health owing to the removal of the word "reputable" from the medical law in 1921 licensed some of these persons but always, I am told, after an examination. The scandal resulted in the Board discrediting the St. Louis College of Physicians and Surgeons, the Kansas City College of Medicine and Surgery and the Kansas City University of Physicians and Surgeons. Weakness of our laws or the indifference of prosecutors permits these traffickers in diplomas to escape punishment for although three have been indicted and one has confessed, there has been no conviction. I believe we should make an attempt to amend our law so that instead of being a misdemeanor for violating the medical practice act it shall be a felony. There is considerable sentiment among laymen to support such an amendment.

Public Health Fund

Contributions to the public health fund authorized last session have been disappointing. We started out with high enthusiasm to raise \$10,000 to carry us through two years. We have collected hardly one-fifth of that amount. I urge upon you to take an interest in this matter and see that all the members in your various counties contribute something to the fund. Only thus can we provide the sinews of war to enable those whom we send to the capital to fight our battles and compete with any hope of success against the well organized and well financed lobbies opposing our purposes.

Election of Alternates to A. M. A.

In the election of delegates to the American Medical Association we have not conformed with the by-

laws of that body for a number of years. Those by-laws require the election of an alternate for each delegate. It was our theory that when a member accepted this honor he thereby pledged himself to attend the American Medical Association Session, hence, no alternate was needed. For the last two or three years there have been defections in attendance, two of the delegates failing to go to San Francisco at the last session of the A. M. A. and one failing to go to Boston in 1922. This forced us to appoint alternates who, however, not being elected in the regular manner were subject to rejection by the credentials committee of the A. M. A. I think it would be wise to return to the old method of electing an alternate for each delegate to the American Medical Association.

Amendments to By-Laws

Our by-laws are defective concerning the membership of one who moves from his home county to another county. There is no obligation on the part of such member to join the society at his new location. Such member should be obliged to affiliate with the county society where he resides and practices. The committee on revision of the constitution and by-laws will bring in an amendment on this subject.

An amendment to the constitution introduced at the last session will require your attention this year. It is the amendment to Article VIII, Section 2, reducing the term of councilor from five to three years.

The Status of Membership

We were compelled to drop an unusual number of delinquent members since the last Session for non-payment of dues. Some of them had not paid for three or four years. The membership record is as follows:

Number of members, April 1, 1923.....	3,549
New members	186
Members reinstated.....	30
	3,765
Resigned	11
Transferred	26
Dropped	381
Expelled	1
Deceased	42
	461
Total number of members April 1, 1924..	3,304
Decrease	245

Respectfully submitted,

E. J. GOODWIN,
Secretary.

MEMBERS REGISTERED AT THE SIXTY-SEVENTH ANNUAL MEETING

Springfield, May 6, 7, 8, 1924

Adams, D. C., Aurora.
Alford, L. B., St. Louis.
Anderson, A. L., Springfield
Anderson, Finis, Springfield.
Andrews, J. P., Marionville.
Armstrong, A., Springfield.
Armstrong, M. J., Springfield.
Atherton, J. LeRoy, Springfield.
Atkins, W. A., Rogersville.
Bailey, E. M., Elkland.
Balsley, C. M., Joplin.
Barnes, G. W., Springfield.
Barnhart, D. A., Huntsville.
*Bartlett, Mrs. Willard, St. Louis.
Baumgarten, Walter, St. Louis.

*Visitor.

Beatie, W. R., Springfield.
Beers, E. G., Seymour.
Benton, A. W., Neosho.
Biggs, M. O., Fulton.
Bingham, J. W., West Plains
Black, Donald R., Kansas City.
Boger, J. W., Sedalia.
Bohrer, E. Claude, West Plains.
Bonham, V. Q., Fayette.
Boyd, J. R., Springfield.
Box, E. M., Springfield.
Brady, Jules M., St. Louis.
Braecklein, W. A., Higginsville.
Brown, F. H., Billings.
Breuer, Wm. H., St. James.
Bruce, John R., Marshfield.
Brunner, E. E., Marshall.
Bruton, J. W., Mt. Vernon.
Bruton, T. S., Springfield.
Burford, C. E., St. Louis.
Burney, W. S., Miller.
Busiek, Urban, Springfield.
Callaway, G. D., Springfield.
*Camp, George H., Springfield.
Campbell, A. J., Sedalia.
Cardwell, C., Stella.
Carle, H. W., St. Joseph.
Chalkley, A. J., Lexington.
Chandler, John F., Oregon.
Chandler, S. W., Cassville.
Cheatham, R. F., Diamond.
Chenoweth, L. C., Joplin.
Chowning, Thos., Hannibal.
Clark, W. A., Jefferson City.
Clinton, Lloyd B., Carthage.
Coffelt, T. A., Springfield.
Cole, Paul F., Springfield.
Conrad, Harry S., St. Joseph.
Cook, F. L., Independence.
Coon, J. W., Springfield.
Copeland, Carlos, Monett.
Cotton, T. W., Van Buren.
Coughlin, W. T., St. Louis.
Cowan, R. D., Aurora.
Cowen, H. K., Ash Grove.
Crabtree, R. E., Butler.
Craig, T. B. M., Nevada.
Crandall, Frank G., Independence.
Crane, T. V. B., Springfield.
Cromley, J. F., Lamar.
Cullers, C. H., Trenton.
Cunningham, H. L., Cape Girardeau.
Cunningham, O. J., Kansas City.
*Dandy, W. E., Baltimore, Md.
Davis, J. C. B., Willow Springs.
Delamater, G. A., Rich Hill.
*Delamater, Mrs. G. A., Rich Hill.
*DeLisse, Miss Pauline, Kansas City.
Delzell, W. A., Springfield.
DeVilbiss, E. F., Kansas City.
Dewey, J. E., Springfield.
Donaldson, Clyde O., Kansas City.
Dorrell, G. B., Springfield.
Dorsett, Lee, St. Louis.
*Doubler, F. T. H., Springfield.
Dowell, George S., Braymer.
Drake, A. J., Lancaster.
Duckett, C. E., Lamar.
Duckett, T. H., Milford.
Duke, W. W., Kansas City.
Dumbauld, B. A., Webb City.
Dunnigan, Jas. P., Sullivan.
*Durham, O. C., Kansas City.
Dyer, Clyde P., Webster Groves.
Edens, L. M., Cabool.

*Visitor.

- Edwards, J. M., Cross Timbers.
 Eggers, G. C., Clayton.
 Elam, W. T., St. Joseph.
 Elkins, C. B., Springfield.
 Enloe, Cortez, Jefferson City.
 Ernst, E. C., St. Louis.
 Evans, E. L., Springfield.
 Ewell, W. D., Fair Grove.
 Falk, O. P. J., St. Louis.
 Farthing, R. R., Ozark.
 Feller, C. E., Springfield.
 Ferguson, J. P., Springfield.
 Ferguson, L. H., Monett.
 Ferguson, W. J., Sedalia.
 Fessenden, E. M., Springfield.
 Fischel, Ellis, St. Louis.
 Forgrave, H. S., St. Joseph.
 Foster, T. W., Butler.
 Francisco, C. B., Kansas City.
 *French, U. S., Republic.
 Frick, W. J., Kansas City.
 Fryer, C. P., Maryville.
 Fulton, W. I., Mt. Vernon.
 Fuson, F. B., Springfield.
 Fuson, J. A., Mansfield.
 Gammon, W. E., Louisburg.
 Gentry, Wm. H., Carthage.
 George, Chas. A., Springfield.
 Gifford, A. W., Springfield.
 Glynn, Robert, Springfield.
 Greene, Chas. F., Bakersfield.
 Greene, J. W., Independence.
 Gregg, A. Mitchell, Joplin.
 Griffin, Fred, Mexico.
 Gum, P. D., West Plains.
 Guthrie, H. P., Springfield.
 Haire, Robert D., Clinton.
 Hamel, A. H., St. Louis.
 Hamilton, H. A., Lebanon.
 Hamlin, C. W., Palmyra.
 Hancock, J. B., Newtonia.
 Handley, W. E., Springfield.
 Hanna, M. A., Kansas City.
 Hardy, J. W., Sumner.
 Harris, E. S., Independence.
 Hartley, L. D., Nebo.
 Henderson, W. G., Oak Hill.
 Herbert, T. B., Lebanon.
 Highfill, M., Marshfield.
 Hill, Howard, Kansas City.
 Hill, Roland, St. Louis.
 Hindman, W. M., Burlington Junction.
 Hogeboom, George W., Springfield.
 Hogg, Garrett, Springfield.
 Hogue, John A., Holcomb.
 Holbrook, Ralph, Kansas City.
 Holmes, L. I., Miller.
 Holmes, P. A., Mt. Vernon.
 Home, L. O., Linneus.
 Hope, D. H., Cape Girardeau.
 Hopkins, Ross, Jefferson City.
 Hornback, J. T., Nevada.
 Horst, O. C., Springfield.
 *How, James Eads, St. Louis.
 *Huber, Ernest E., Bolivar.
 Hudson, F. A., Buffalo.
 Humbert, Chas. D., Barnard.
 Hunt, Claude J., Kansas City.
 *Hurt, Lee, Climax Springs.
 Hyndman, Chas. E., St. Louis.
 Jackson, Jabez N., Kansas City.
 James, E. D., Joplin.
 James, Edward F., Springfield.
 James, Joseph D., Springfield.
 Jarvis, N. W., Festus.
 Johns, George A., Jefferson City.
 Johnson, B. F., Buffalo.
 Jones, V. L., St. Louis.
 Kearney, E. F., Oregon.
 Kennedy, Robert W., Marshall.
 Kerr, H. L., Crane.
 Kerr, U. F., Springfield.
 Kieffer, A. R., St. Louis.
 *Kienberger, Mrs. Gus, Rich Hill.
 Kimbrough, John S., St. Louis.
 Kinsella, R. A., St. Louis.
 *Kitchell, W. E., St. Clair.
 Klingner, T. O., Springfield.
 Knabb, Arthur D., Springfield.
 Koch, Otto, St. Louis.
 Koppenbrink, W. E., Higginsville.
 Kramolowsky, H. H., St. Louis.
 Krause, I. B., Jefferson City.
 Kring, Richard, St. Louis.
 LaRue, Frank, Dexter.
 Leaming, H. A., Joplin.
 LeCompte, E. M., Brookline.
 Lemmon, Geo. B., Springfield.
 *Lentz, J. F., Stella.
 Lewis, Bransford.
 Lindsay, J. W., Conway.
 Liston, E. H., Walker.
 Lockwood, T. F., Butler.
 Lounsbury, R. C., Springfield.
 Love, Jos. W., Springfield.
 Loveland, W. S., Mt. Vernon.
 Lucke, E. M., Albany.
 Luedde, W. H., St. Louis.
 Lyter, J. Curtis, St. Louis.
 McAlester, A. W., Kansas City.
 McCallum, F. M., Kansas City.
 McCandless, O. H., Kansas City.
 McCann, J. P., Springfield.
 McComas, A. R., Sturgeon.
 McComb, J. A., Lebanon.
 McCormick, F. L., Moberly.
 *McDermott, John, Lockwood.
 McGaughey, H. D., Joplin.
 McGrath, John, St. Louis.
 McHaffie, Charles H., Ash Grove.
 McMichael, Austin, Rockport.
 McVay, James R., Kansas City.
 Major, Hermon S., Kansas City.
 Major, Ralph H., Kansas City.
 Mallette, Cyrus, Crocker.
 Mallory, W. H., Joplin.
 Maples, F. H., Rogersville.
 Marshall, A. H., Charleston.
 Massey, Bradford, Flat River.
 *Massey, T. J., Lockwood.
 Meredith, A. L., Prairie Home.
 Meyer, C. Bertram, Springfield.
 Meyer, G. A., Buffalo.
 Miller, Enoch H., Liberty.
 Miller, Thomas D., Aurora.
 Mitchell, Guy B., Branson.
 Mook, W. H., St. Louis.
 Moore, J. G., Mexico.
 Moore, Neil S., St. Louis.
 Morrison, L. J. G., Halltown.
 Mosher, George Clark, Kansas City.
 Moss, H. E., Kansas City.
 *Mountin, Joseph W., Jefferson City.
 Murphy, Franklin E., Kansas City.
 Myers, G. T., Macks Creek.
 Neff, Frank C., Kansas City.
 Neff, Robert L., Joplin.
 Norman, R. M., Ava.
 North, Emmett P., St. Louis.

*Visitor.

*Visitor.

- Noyes, Guy L., Columbia.
 O'Bannon, W. N., New Madrid.
 O'Dell, T. T., Aurora.
 Oliver, Everett A., Richland.
 Olmsted, W. H., St. Louis.
 Overholser, M. P., Harrisonville.
 Owens, J. F., St. Joseph.
 Owens, P. H., Kansas City.
 Pare, E. Y., Leeton.
 Parker, H. F., Warrensburg.
 Parker, J. H., Farmington.
 Parker, W. J., Steelville.
 Patterson, Wm. P., Springfield.
 Payne, R. J., St. Louis.
 Pickel, J. W., Barnhart.
 Pierce, Chas. E., Republic.
 Pipkin, R. L., Springfield.
 Pitzman, Marsh, St. Louis.
 Potter, A. E., Bois D'Arc.
 Powers, Everett, Carthage.
 Powers, H. C., Joplin.
 *Pusey, W. A., Chicago, Illinois.
 *Putnam, George W., Jefferson City.
 Rabenau, W. J., Springfield.
 Ragan, S. T., Moberly.
 Redman, Spence, Platte City.
 Reeves, Geo. W., Steelville.
 Ridge, Frank I., Kansas City.
 Rienhoff, W. F., Springfield.
 Rinehart, J. S., Springfield.
 Roberts, M. G., Marshfield.
 Robertson, J. A., Springfield.
 Robertson, R. C., Nevada.
 Robinson, G. Wilse, Kansas City.
 Rogers, R. M., Mansfield.
 Roseberry, E. C., Springfield.
 Rowe, Alfred R., Poplar Bluff.
 Ruddell, George W., St. Louis.
 Russell, C. W., Springfield.
 Russell, J. M., Monett.
 Russell, R. L., Jefferson City.
 Ryland, C. T., Lexington.
 Sachs, Ernest, St. Louis.
 Salyer, Glenn W., Cassville.
 Saunders, E. W., St. Louis.
 Sayers, J. S., Springfield.
 Schnobelen, P. C., St. Louis.
 Schofield, L. J., Warrensburg.
 Schulz, A. P. Erich, St. Charles.
 Scott, J. G., Lebanon.
 Searcy, W. P., Exeter.
 Shelton, C. W., Mt. Vernon.
 Shelton, E. C., Eldon.
 Shelton, M. C., Joplin.
 Simpson, Guy, St. Louis.
 Simpson, Morris B., Kansas City.
 *Smillie, B. A., Gilmore City, Iowa.
 Smith, Carroll, St. Louis.
 Smith, Clinton K., Kansas City.
 Smith, C. Souter, Springfield.
 Smith, Elsworth S., St. Louis.
 Smith, Wallis, Springfield.
 Smith, Wilbur, Springfield.
 Spence, E. L., Kennett.
 Spurgeon, M. E., Red Bird.
 Stebbins, N. I., Clinton.
 Stine, Dan G., Columbia.
 Stone, Murray C., Springfield.
 Stookey, Paul F., Kansas City.
 Stormont, R. M., Webb City.
 Tainter, F. J., St. Louis.
 *Talbot, L. H., Long Lane.
 Talbott, Hudson, St. Louis.
 Teachenor, F. R., Kansas City.
 Thornburgh, A. H., West Plains.
 Tickle, Solomon, Springfield.
 Tilles, Randall S., St. Louis.
 Timberman, John H., Chillicothe.
 Titsworth, Guy, Sedalia.
 Townsend, James A., Eureka.
 *Townsend, Mrs. James A., Eureka.
 Trimble, E., Seymour.
 Triplett, J. S., Harrisonville.
 Tucker, C. A., Springfield.
 Turner, Wm. L., Springfield.
 Tyree, James L., Joplin.
 Unterberg, H., St. Louis.
 Van Meter, Eugene R., St. Louis.
 Van Ravenswaay, Alexander, Boonville.
 Vogt, W. H., St. Louis.
 Wade, E. E. Clever.
 Wade, J. H. Ozark.
 Walker, G. D., Eldon.
 Wallace, Chas. H., St. Joseph.
 Walsh, W. T., Springfield.
 *Warnshuis, F. C., Grand Rapids, Mich.
 Wasson, W. B., Nixa.
 Webb, Leslie R., Springfield.
 Webster, R. W., Carthage.
 Welch, A. J., Kansas City.
 Welch, J. Franklin, Salisbury.
 West, W. M., Monett.
 White, Park J., St. Louis.
 White, T. Wistar, St. Louis.
 *Wilcoxon, T. H., Bowling Green.
 Wilkes, B. A., St. Louis.
 Willcox, C. M. C., Kirksville.
 Williams, J. W., Springfield.
 Williams, N. C., Springfield.
 Williams, P. E., St. Joseph.
 Williams, Robert F., Springfield.
 Wills, R. L., Neosho.
 Wills, Wm. J., Springfield.
 Wilson, V. R., Rosendale.
 Wise, Hugh, Sparta.
 Wittwer, E. C., Mountain Grove.
 Wood, N. P., Independence.
 Wood, V. V., St. Louis.
 Woodson, C. R., St. Joseph.
 *Wren, James A., Lockwood.
 Wright, J. B., Trenton.
 Yancy, E. F., Sedalia.
 Young, J. C., Ozark.
 Young, J. H., Ponce de Leon.
 Zahorsky, John, St. Louis.
 *Ziegler, W. H., Jefferson City.

Total, 365.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One-Hundred and Fourth Meeting, April 14, 1924

1. PRESENTATION OF CASES.

A. A CASE OF EARLY PARESIS TREATED WITH TRYPARSAMIDE.— By DR. LEE D. CADY.

This patient came to our attention January 5, 1924, complaining of nervousness, tremor of left arm, and "a positive Wassermann."

Family History. Irrelevant except wife has had one miscarriage and is now being treated for syphilis.

Past History. There is no history of any primary or secondary syphilitic lesions. Health was good and he occupied a position of responsibility commanding a good salary. In August, 1922, he suddenly became acutely maniacal, destructive and amnesic.

*Visitor.

*Visitor.

This condition lasted eleven days. It was then found that blood and spinal fluid Wassermanns were four plus. He subsequently received three salvarsan injections and since June, 1923, has been receiving mercury and potassium iodide in our clinic. He improved a great deal until the last few months, when his condition became regressive.

Physical examination revealed nothing of importance. Neurological examination: Revealed patient's mentality essentially normal but his psycho-motor processes impaired; speech was monotonous, slurring, tremulous, but correct in diction and syntax. Insight was perfect. Cranial nerves normal except slight tinnitus and vertigo. Gag reflex hypoaactive, very little if any tremor to extended tongue. There was some adiodokokinesi of left arm. All tendon reflexes hyperactive. Question of patellar clonus on the right.

Laboratory. Blood, Wassermann ++++. Spinal fluid, Wassermann ++++. Cells 25, globulin ++, colloidal gold curve 4553321000. He was put upon a course of three grams tryparsamide weekly and .06 grams mercury salicylate weekly. His blood Wassermann was then negative, spinal fluid Wassermann ++++, cells 17, globulin ++, colloidal gold 5555442000. Neurological condition the same, psychomotor processes more active.

After one month of rest, the patient had gained six pounds, his mentality continued to improve, but blood Wassermann was now ++++, spinal fluid Wassermann ++++, cells 6, globulin ++, colloidal gold curve 544320000. During last few weeks patient has improved sufficiently that he is able to work and just about make a living. If the patient does not make more permanent serological improvement during the next course of treatment of eight weeks he will have neocarsphenamin or sulph-arsphenamin added to his therapy.

B. A CASE OF AMAUROSIS CAUSED BY TRYPARSAMIDE.—By DR. LEE D. CADY.

This colored patient, aged 55, has signs of tabes dorsalis and perhaps early paresis. He came to our attention January 5, 1924, complaining of shooting pains in hips, back, legs, and neck. His family history is irrelevant.

Past History and Present Illness. Venereal history extends from age of 16 to 23, chancre probably about twenty. Received local medication, lesions healed. Three years ago lancing pains began. Impotence two years ago. Paresthesias about same time, has had spasms in muscles of hands, attacks of unsteadiness of gait and gradual loss of strength. Has been wearing glasses for distant vision.

Physical examination showed neglected and dirty mouth; systolic murmur at apex of heart; chronic prostatitis. Neurological examination revealed intelligence somewhat above average; psychomotor processes unimpaired, attention rather poor.

Cranial nerves, unable to smell on right side. Fundi negative, but visual fields a little constricted. Argyle-Robertson pupils, vertigo at times; Weber lateralized to the left; gag reflex absent. Slight ataxia, arms and legs. Gait unsteady. Knee jerks and ankle jerks absent.

Laboratory. Blood, Wassermann ++. Spinal fluid Wassermann ++++. Cells 29, globulin ++. Colloidal gold 5555543100. After two doses of tryparsamide 3 grams each, vision very rapidly became dim. Within five days the patient was unable to perceive light and remained in this condition for twelve days. During this time there were no demonstrable changes in the fundi. His vision gradually returned so that within one month he could see 20/38 with either eye. Visual fields were markedly

constricted, he complained of haziness of vision and until the present time he is annoyed by his inability to see well in his peripheral fields. He now refuses to go on with treatment although he was receiving tryparsamide during the period of his recovery of vision. The visual fields are gradually becoming larger.

2. TRYPARSAMIDE IN THE TREATMENT OF NEURO-SYPHILIS.—By DR. SIDNEY I. SCHWAB.

A report is made of the use of tryparsamide in the treatment of eighty-two cases of neuro-syphilis.

In a general way and very tentatively the following seems to be justified as far as this material is concerned.

First, there is a rapid change in the spinal fluid serology under tryparsamide therapy—a more rapid change than has been obtained from any other form of therapeutic medication. The chief alteration has been found in the alteration of the paretic type of curve, in the lessening of the number of lymphocytes and in the rapid decline in the Wassermann reaction. The same cannot be said, however, of the blood, as the alterations from positive to negative are much more general. Inasmuch as a certain large percentage of tabetics do not present a positive blood at the time of treatment the blood is of only relative importance. Tryparsamide has up to the present time no deleterious effect upon the patient; in fact, it seems from the constitutional reaction point of view almost an inert substance. The visual defects seen in at least 39 per cent of our cases have been practically proven to be temporary. In respect to cases presenting visual defects due to optic atrophy there is no tentative conclusion so far to be reached, with the exception of the fact that has been before stated that at least half of our cases have shown no decline in vision and the decline in the remainder may well be due to progression of the original condition. In all of the eighty-two cases, with one exception, there has been a very definite clinical improvement. This has reference not only to the neurological symptoms as such but in regard to the general physical well being. Tabetic patients have shown an almost constant improvement all the way from complete disappearance of the tabetic pain to a very slight remnant. During the rest period, however, the tabetic pain sometimes returns, but apparently with less severity. All the paretics have cleared up to some extent mentally; some in a rather remarkable manner and others slightly. This means merely an intermission produced rather more quickly than is usually the case. There may be in all our cases a regression. No definite opinion on the paretics can as yet be stated. There has been in some cases of optic atrophy a subjective improvement of vision which may be deceptive, but it can be stated with a great deal of positiveness that on the whole the optic atrophy cases have shown no important tendency to grow worse. The use of tryparsamide in optic atrophy cases is therefore not contraindicated.

These tentative conclusions indicate that tryparsamide therapy for neurosyphilis, combined with salvarsan and its derivatives and mercury, offers for the present at least a more hopeful outlook for these cases than any other drug or combination of drugs that has been tried here in Barnes Hospital and it certainly presents a more advanced type of therapy than intravenous medication or the use of any other method, and I believe we have tried all of them.

3. MODE OF PRODUCTION OF DIPHTHERIA TOXIN.—By DR. H. H. BELL.

It is generally recognized that the concentration of diphtheria toxin in bouillon culture reaches a maximum point at about 7 to 9 days incubation, after which it diminishes rapidly. Derby, who demonstrated proteolytic substances in the diphtheria bacillus of the character of trypsin, attributes the rapid diminution of toxin in cultures to a proteolytic action.

Walbum, and confirmed, by Derby, found that extract of diphtheria bacillus incubated with peptone solution increased in toxicity. Derby offered the hypothesis that proteolytic enzyme furnished by the diphtheria bacillus acts on peptone to produce toxin and that further action of this enzyme on the toxin rendered it nontoxic.

I have twice repeated the work of Walbum and found slight increase of toxicity in the mixture incubated. I have found that killed suspension of diphtheria bacilli kept at 5°C. for 3 or 4 weeks increases in toxicity, and that this increase in toxicity is neutralized by antitoxin.

Maloney and Hanna studied from day to day the number of living diphtheria bacilli in bouillon culture, and found the largest number of living organisms to occur at 24 hours incubation, after which the number of living organisms decreased; at the end of 24 hours there was about 1 M.L.D. per 1 c.c., and the toxicity increased thereafter rapidly.

It seems possible that there is a relationship between disintegrating diphtheria bacillus protein and toxin production. Diphtheria bacillus protein on standing increases in toxicity which is neutralizable by antitoxin.

4. EFFECT OF DIPHTHERIA TOXIN ON PREVENTING ANAPHYLACTIC SHOCK.—By DR. H. H. BELL.

Guinea pigs sensitized to horse will rather uniformly show fatal anaphylactic shock following intravenous injection of horse serum. One half M.L.D. of diphtheria toxin given subcutaneously four days preceding the anaphylactic dose has prevented fatal anaphylactic shock.

The maximum effect of diphtheria toxin upon the liver of guinea pigs has been found to occur at about four days after incubation. Manwaring prevented anaphylactic shock in sensitized animals by eliminating the liver through ligation of its vessels. It would at present be speculative to attribute the anti-anaphylactic action of diphtheria toxin to liver changes.

The desensitization effect of diphtheria toxin was most marked in the guinea pigs which were most ill from the toxin. If such experiments could be applied to humans, then patients profoundly ill from clinical diphtheria would be unlikely to show serious reaction from intravenous administration of antitoxin.

5. THE EFFECT OF OLIVE OIL AND LIQUID PETROLATUM ON CULTURES OF TUBERCLE BACILLI.—By DR. F. A. McJUNKIN.

At the December meeting the writer demonstrated cultures made non-acidfast by incubation with oleic acid which is added to the cultures after they have been dehydrated with alcohol. If olive oil is substituted for the oleic acid the bacilli remain acidfast. However, if acetone and not alcohol is used for dehydration olive oil renders the cultures non-acidfast. The method is to decant the broth from a flask culture and to cover the growth for five minutes with

60 c.c. of acetone. The acetone is decanted and the dehydrated growth covered with 10 c.c. of olive oil which has just been shaken vigorously with one or two drops of water.

The olive oil bacillus suspension may be injected into guinea pigs without severe local reaction. Such injections sensitize the skin so that the intracutaneous tuberculin test causes a severe local reaction, necrosis and ulceration. Twenty-three animals have reacted in this way. In three of the twenty-three chloroformed and examined five weeks and three days after injection there is nothing in the groins to suggest infection and the internal organs are normal. Additional work is in progress to determine definitely the possibility of infection. The tentative conclusions are that the suspensions contain only dead bacilli, and that they have the property of sensitizing the skin of guinea pigs to tuberculin.

6. THE EFFECT OF INTRA-UTERINE INJECTION OF VIRULENT TUBERCLE BACILLI AND OF NON-VIRULENT ACID-FAST BACILLI IN THE GUINEA-PIG.—By YUN-CHIAN SUN and O. ISHII.

1. It is possible to produce through injection of a non-virulent strain of acid-fast bacilli into a ligated segment of the uterus of the guinea-pig chronic lesions while after subcutaneous injection changes occur which are of a more transitory character; they disappear either spontaneously or after a slight break in the overlying skin has taken place.

2. After intra-uterine injection of a virulent as well as a non-virulent culture of acid-fast bacilli, in the guinea-pig, the bacilli persist in the uterine cavity for a long period of time. However, non-virulent bacilli differ from the virulent bacilli in the power of invading and necrotizing the wall of the uterus which the latter possess to a high degree in contrast to the former. The non-pathogenic organisms can be found only in the superficial parts of the host tissue in the first few days following injection.

3. The injection of virulent tubercle bacilli may cause changes in the sexual cycle of the guinea-pig. These are, however, not a direct and specific effect of toxic bacterial substance, but the non-specific effects exerted by the infecting organisms on the general health of the animal. The changes observed consist in a hypotypical condition of the ovaries with the resulting effects on the sexual periodicity. In addition, injection of tubercle bacilli into the sensitized uterus of the guinea-pig may cause in a non-specific way the production of placentomata.

HENRY COUNTY MEDICAL SOCIETY

The Henry County Medical Society met in Windsor, on Thursday, May 22, 10 a. m. A clinic was held in a room of the school building especially prepared for the work, and many patients were examined. A number of nose and throat cases were operated on by Dr. Sam. E. Roberts, of Kansas City, who explained the conditions found and the reasons the operation was necessary. Those present gave close attention.

At 1:30 p. m. Dr. J. H. Walton, president, called the meeting to order in the Masonic Hall. Eighteen members and visitors were present beside the lecturers. Dr. R. J. Jennings, secretary, was at the desk.

Dr. Walton introduced Dr. Sam. E. Roberts as the first speaker. Dr. Roberts gave in detail the pathology of nose and throat troubles and their symptoms and the many different complications they cause in surrounding nerve and bone structures such as mastoiditis, eye strain and frontal headache, all of

which was very interesting and instructive. The close attention that everyone gave to his talk proved it.

Dr. R. W. Swinney, of Kansas City, discussed the pathology of cardiovascular diseases, and the methods of proving the cause and the effect that syphilis has upon them, and the structures involved.

Dr. Paul T. Stookey, of Kansas City, continued the discussion on cardiovascular troubles and showed large films to emphasize his talk.

Dr. E. P. Hamilton, of Kansas City, showed lantern slides to illustrate his lecture on intestinal obstruction. This was a good talk and well worth listening to and cogitating over.

F. M. DOUGLASS, M.D., Reporter.

HOWELL COUNTY MEDICAL SOCIETY

The Howell County Medical Society met in regular session on April 24, 1924, in the Odd Fellows' Hall, West Plains, Mo., Dr. D. D. Cox presiding.

Members present: Dr. D. D. Cox, Pomona; Drs. J. C. B. Davis and A. Wall, Willow Springs; Drs. R. E. Hogan, P. D. Gum, A. H. Thornburgh, J. W. Bingham, D. J. Nichols and E. C. Bohrer, West Plains; Dr. J. D. Black, South Fork; and Dr. H. A. Thompson, Lanton.

The minutes of last meeting were read and approved.

A letter from the State Secretary urging the society and members to use their influence in securing candidates for political offices favorable to the interests of better medical practice was discussed at length by Drs. Hogan, Thornburgh and Gum.

A motion by Dr. Thornburgh for the appointment of a legal and defense committee was adopted. The following committee was appointed: Drs. J. C. B. Davis, R. E. Hogan and A. H. Thornburgh.

Dr. Wall read an instructive paper on "The Use of the Microscope as an Aid in Diagnosis." Discussed by Drs. Thornburgh, Hogan and Bingham.

A motion by Dr. Hogan for a committee on medical ethics was adopted and the following appointed: Drs. J. W. Bingham, E. C. Bohrer and A. Wall.

There was a general discussion by all present on fees and schedules and collections.

Adjourned until the next regular meeting in May.

Meeting of May 19

The Howell County Medical Society met in regular session May 19, 1924, in the Odd Fellows' Hall, West Plains, with Dr. D. D. Cox, presiding.

Members present: Dr. D. D. Cox, Pomona; Dr. A. Wall, Willow Springs; Drs. R. E. Hogan, A. H. Thornburgh, P. D. Gum, J. W. Bingham, D. J. Nichols and E. C. Bohrer, West Plains.

Minutes of the last meeting were read and approved.

Dr. Thornburgh gave his report as delegate to the State Meeting at Springfield. He stressed especially the need of active measures in opposing the various cults if their elimination is to be obtained.

After a lengthy discussion the legal committee was instructed to prepare written statements for political candidates asking their stand on the status of illegal practitioners and requesting a written answer.

The next meeting (in June) is to be a special meeting with a banquet and social hour for the members and their wives in the evening. Committee: Drs. Gum, Thornburgh and Bohrer.

Adjourned until the next regular meeting.

E. CLAUDE BOHRER, M.D., Secretary.

PETTIS COUNTY MEDICAL SOCIETY

The Pettis County Medical Society met in regular session at Hildebrandt's Hotel, Sedalia, May 19, at

6:30 p. m. The regular order of business was first taken up and disposed of. Then followed an excellent banquet which our program committee had arranged for us.

We had as our guest Dr. Minford B. Hanna, of Kansas City, who read a paper on "Pre-natal Care," and followed this with a short illustrated talk on "Vaginal Cesarean Section." These papers provoked much discussion and many questions.

All members left the meeting in high spirits in anticipation of the next meeting, which will be held in the fall.

J. W. BOGER, M. D., Secretary.

SOUTHEAST MISSOURI MEDICAL ASSOCIATION

The Southeast Missouri Medical Association held its Forty-Eighth Annual Session at Charleston May 27-28 with about fifty members and visitors present. On the evening of the 27th a banquet was served the members by the Mississippi County Medical Society, following which the opening session was held in the auditorium of the local Methodist Church.

The scientific sessions began Wednesday the 28th at 9 a. m. and closed that evening at 6 p. m. A splendid program was presented and the discussions were spirited and general. It was a fine meeting.

The new officers elected were:

President, Dr. G. W. Vinyard, Jackson.

Vice President, Dr. G. C. Cannon, Farnfelt.

Rec. Secy., Dr. W. S. Love, Charleston

Corres. Secy., Dr. S. C. Slaughter, Fredericktown.

Treasurer, Dr. W. R. Goodycoontz, Cape Girardeau.

Cape Girardeau was selected as the place of the October meeting.

New members received were: Drs. Flint Bondurant, Cairo, Ill.; Jas. S. Johnson, Cairo, Ill.; J. D. VanCleve, Malden, Mo.

W. S. LOVE, M.D., Recording Secretary.

STODDARD COUNTY MEDICAL SOCIETY

The Stoddard County Medical Society met in Bloomfield at the office of Dr. S. S. Davis, February 26, 1924. Those present were: Dr. T. C. Allen, Bernie; Drs. Frank Larue, J. L. Craig, C. L. Bennett, and W. C. Dieckman, Dexter; Drs. Eldon Phillips and S. S. Davis, Bloomfield; Drs. J. P. Brandon and W. J. Hux, Essex. Dr. Geo. Hamilton of Dexter was present as a visitor.

On account of the almost impassable condition of the roads there had been no meeting for several months and no program had been prepared. Mr. Clarence A. Powell, prosecuting attorney of Stoddard County, was present and discussed the standing of the chiropractor before the law. Members of the Society discussed the need of co-operation of the medical profession with the prosecuting attorney in gathering evidence against illegal practitioners.

The following officers were elected for 1924: President, T. C. Allen, Bernie; vice president, J. L. Craig, Dexter; Secretary, W. C. Dieckman, Dexter; Treasurer, S. S. Davis, Bloomfield; censor for three years, Eldon Phillips, Bloomfield; delegate to State meeting, Frank Larue Dexter; alternate, J. P. Brandon, Essex.

Dr. Speers, of Paynton, Mo., was elected to membership in the Society.

The next regular meeting will be held in Essex the first Wednesday in April.

W. C. DIECKMAN, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met in the parlor of the Archer Hotel at Hartville Thursday, May 1, at 1:30 p. m., with the following members and visitors present: R. A. Ryan, of Norwood; R. M. Rogers and J. A. Fuson of Mansfield, R. M. Norman of Ava; B. E. Latimer of Hartville; A. C. Ames, E. C. Wittwer and F. B. Dailey of Mountain Grove; and H. A. Lowe, Garrett Hogg and M. J. Armstrong of Springfield.

The meeting was opened by the President, B. E. Latimer, and the minutes of the last meeting were read and approved.

Several letters from the Secretary of the State Medical Association were read, and one of them in regard to working for the election of candidates favorable to the medical profession was discussed later in the afternoon with considerable interest.

The subject of gastric and duodenal ulcer was presented by Drs. Hogg and Lowe. The former spoke on the medical phase and the latter on the surgical aspect of the question. It was brought out that such cases are primarily medical and become surgical only in case of perforation, hemorrhage or obstruction.

Dr. Armstrong spoke on the subject of tuberculosis and emphasized the importance of early diagnosis and proper treatment at the first appearance of the disease.

Both subjects were discussed by nearly every one present and some additional points were brought out.

Dr. Lowe then brought up the subject of working for candidates for office who are favorable to us, as suggested by the letter from the State Secretary above referred to, and a committee was appointed consisting of Drs. Ryan, Fuson and Wittwer for Wright County and Drs. Norman and Gentry for Douglas County, with the president, Dr. Latimer, to learn the attitude of all local candidates for office at the coming election and report at the next meeting, which was advanced from the regular date two weeks to give time to get this report and take action thereon before the primary election.

The meeting adjourned at 4 p. m. to meet at Norwood Thursday, July 24.

A. C. AMES, M. D., Secretary.

BOOK REVIEWS

OPERATIVE SURGERY. Volume IV. By Warren Stone Bickham, M.D., former visiting surgeon to Charity and Touro Hospitals, New Orleans. 842 pages with 772 illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth. \$10.00 per volume. Sold by subscription only. Index volume free.

It is always cheering to find a work done by one author. If it is a big book one knows at once that the author has the fundamental quality necessary to any great achievement—courage. What else he may have must be determined by examining the book.

In Bickham's case we may start in with an additional established point in our premise. Past performances have proven that the author is a careful, sane and logical reasoner of established reputation. We know, therefore, that it is not reputation or notoriety he seeks but a desire to render service and the desire must have been impelling to cause him to undertake a task which any writer of his experience must have known to be stupendous.

What of the product? The object for an accurate

judgment is found in Vol. IV covering the operations on the thoracic and abdominal organs. The pericardium, heart and blood vessels as well as the esophagus receive detailed treatment. Since this is not every day stuff to the most of us no one need feel humiliated to be found by his assistants reading up these chapters when confronted by these newer things in surgery. The sections on hernia, peritoncum and mesentery are particularly to be recommended to the young surgeon. Even so simple a procedure as opening the abdomen without cutting a gut is carefully considered. Simple, indeed, but who has not at some time executed this inexcusable technical blunder? The various operations on hernias has nowhere, save in Watson's recent book, been so satisfactorily described. Each section on the stomach, the gall bladder and bile tract and the intestines receives about a hundred and fifty pages, in which every condition the reviewer has ever encountered is fully described, and it may be added, quite a few besides.

It would be futile to attempt to cite special points of excellence. Everything seems adequately described.

Operative technic may be described in the language of the cook book, "Take a string 14 inches long, etc.," or, it may include the philosophic problems underlying the procedure and the results obtained. In this regard one may truthfully say that Bickham has out-Kochered Kocher. Every page evidences clear, logical reasoning presented in lucid English. Any man who can follow the author intelligently is already a good surgeon. The beginner who finds parts of it obscure will find a careful perusal of its pages one of the greatest obtainable agencies in achieving this exalted sphere. It may be added also that most old campaigners also will find some things that will receive added clarity in their minds by a perusal of the books and perhaps, forbid the thought, find a few ideas of which they have never heard.

One feature which adds to the value of the book should be mentioned; after each chapter heading is a summary of the chapter contents with the page number so that one may turn at once to the subject of special interest. The section headings are in bold type which guide the eye at once to the matter sought. The cuts, nearly eight hundred in this volume, are clear and properly elucidate the text. There is no padding and though there are more than fifty lines to the page the text is not tiring to the eye.

Fulsome praise is such a common trick of the book reviewer, that one hesitates to summarize his sentiments. However, a feeling of national pride compels one to note that the greatest book ever written on operative surgery has been written by ONE American!

A. E. H.

MODERN UROLOGY. In original contributions by American authors. Edited by Hugh Cabot, M.D., C.M.G., F.A.C.S., Dean and professor of Surgery in the Medical School of the University of Michigan, Ann Arbor, Michigan. Volumes 1 and 2. Second edition, thoroughly revised. Lea & Febiger, Philadelphia and New York, 1924. Price \$18.00 per volume.

The second edition in two volumes is essentially similar in general composition to the first edition. The work is a compilation of monographs contributed by men recognized as particularly capable in that part of the field to which each monograph is devoted.

It apparently is the intention of the author or compiler to place in one work a complete digest of all phases of the diseases of the genito-urinary organs up to the present time. In this he has admirably succeeded. The work not only embraces a complete

treatise on the so-called venereal diseases, but thoroughly covers the modern methods of urological diagnosis and treatment, including the use of instruments of precision, the cystoscope, etc. All phases of surgery on the genito-urinary organs are included. The technic of the operations is given in careful detail.

While the work is sufficiently painstaking in detail to satisfy the most exacting demands as a work of scientific reference, the various monographs are written with sufficient conciseness and clearness of arrangement to enable the busy practitioner to gather the information desired quickly once he is able to place his case in the general classification of any particular monograph.

This work undoubtedly surpasses in completeness anything previously published on urology.

C. K. S.

PEDIATRICS. By Various Authors. Edited by Isaac A. Abt, Professor of Diseases of Children, Northwestern University Medical School. Volume 3. Cloth. Price, \$10. Pp. 1051, with 223 illustrations. Philadelphia: W. B. Saunders Company, 1924.

The earlier two volumes have been reviewed in *THE JOURNAL*, and several volumes are yet to appear.

The opening chapter is by Dr. Clemens Pirquet upon "The 'Nem' System of Nutrition," in which he explains the amount of food necessary, based on the sitting height of the child. The use of milk as the standard unit of physiologic nutrition is the basis of his system.

The volume contains chapters on the physiology and diseases of the gastro-intestinal tract, nutrition, the abdominal and thoracic viscera, the upper respiratory tract, the cervical lymph nodes, the salivary glands, etc., by American authors.

Considerable space is given to the diseases of the larynx and the examination by direct methods especially for the removal of foreign bodies and the concluding chapter upon pneumonia is contributed by Dr. Edward A. Morgan, of Toronto.

The index is for this volume alone and an excellent bibliography is found at the conclusion of each subject.

Abt's Pediatrics will be the most complete English work upon the subject.

F. C. N.

PROBLEMS IN TUBERCULOSIS: ADMINISTRATION, DIAGNOSIS, EMPLOYMENT, SETTLEMENTS. By Sir James Kingston Fowler, K.C.V.O., C.M.G., M.D., D.Sc. (Hon.), F.R.C.P. Consulting Physician and Emeritus Lecturer on Medicine, The Middlesex Hospital. London: Henry Frowde and Hodder & Stoughton. Oxford University Press. American Branch, 35 W. 32nd St., New York City. 1923.

This book presents in sixty-four pages some of the administrative problems that have arisen in dealing with the tuberculosis question in England.

The opening chapters deal with the various governmental and other measures adopted in England, beginning with the founding of the first sanatorium by George Bodington, in 1840, to the present state of 442 dispensaries and 340 tuberculosis officers. A brief chapter is devoted to a study of mortality statistics.

Of particular interest to the practitioner is the chapter on diagnosis, for it deals not with physical diagnosis but with mistaken diagnoses as seen from the standpoint of the tuberculosis physician in the sanatorium. The remedy for the more accurate diagnosing of tuberculosis is then discussed.

The later chapters describe the ideal "Settlement Treatment" as proposed by the author, a scheme well worth studying and one which would return the

tuberculous patient to his community a distinct economic asset.

C. H. E.

ALCOHOL AND PROHIBITION: IN THEIR RELATION TO CIVILIZATION AND THE ART OF LIVING. By Victor G. Vecki, M.D., San Francisco, California. Philadelphia and London: J. B. Lippincott Company. 1923. 165 p.

This book purports to be a discussion of alcohol and prohibition in their relation to civilization and the art of living. One might expect from the ambitious title something more than a compilation of opinions and a culling of the newspapers for reports of violations of the Volstead law. The alternatives offered are the old plea for beer and "light wines," (whatever they are) and for kindness to an erring humanity that "liberty" requires shall have the privilege of indulging itself if it wants to. No one doubts the innumerable violations of the Volstead law, and all other laws for that matter.

It is questionable whether a book is necessary to restate the obvious.

M. A. B.

DUCTLESS AND OTHER GLANDS: A POPULAR ACCOUNT OF THEIR NATURE AND FUNCTIONS. By Fred E. Wynne, B. S., M. B., D. P. H., Medical Officer of Health, Sheffield; Professor of Public Health, Sheffield University; Late Hon. Pathologist Royal Infirmary, Wigan. N. Y.: Alfred A. Knopf. 1923. 153 p.

This little volume was written primarily for the lay reader who, if his tastes tend in that direction, will find in it many subjects both interesting and instructive not only in regard to "ductless and other glands" but biology and metabolism as well.

F. N.

HEALTH SERIES. By Dr. S. Josephine Baker, M. D., D. P. H. Director Bureau of Child Hygiene, Department of Health, New York City. Consultant in Child Hygiene, United States Public Health Service. 3 volumes. Cloth, \$1.25 each. Little Brown and Co., Boston. 1923.

Volume 1 deals with pregnancy, heredity and environment; the mother's hygienic care, her ailments and complications during pregnancy; preparation for confinement; progress and management of childbirth; after care and the first care of the infant; the lying-in period, and concludes with a glossary of anatomical, physiological and obstetrical terms which will enlighten the mother as to her condition and care in the bearing of children.

Volume 2 is to instruct the mother in the methods of keeping babies well. When one observes the superstitions, the acceptance of ignorant advice, the lack of training of so many mothers in the care of their babies, it will be readily understood how useful such a book will be when placed in the hands of the mother by the obstetrician and pediatrician.

The nursery, growth and development, clothing, hygiene and feeding of the infant are simply described. Minor ailments are described in a clearly understandable way. The volume concludes with food recipes, a glossary of terms, and a blank page for recording the development and events in the infant's life.

Volume 3 deals with the problems of keeping the pre-school child well and fit for the later period of education. There are few technical terms. The physical and mental development, the hygiene, the training, food and nutrition are dealt with in a popular way.

Of value to the mother is the discussion of nervous manifestations in the child, the prevention of colds and contagious diseases and the handling of the minor accidents and injuries which commonly happen to children.

This series goes only so far as to be comprehensible to the mother and emphasizes the fact that the volumes cannot take the place of the services of the physician when he is needed.

F. C. N.

NOTES ON MATERIA MEDICA. Pharmacology and Therapeutics for Dental Students and Practitioners. By Frank Coleman, M. C., L. R. C. P., M. R. C. S., L. D. S. Assistant Dental Surgeon Royal Dental Hospital. Fifth Edition. Henry Frowde and Hodder & Stoughton, London. Oxford University Press, American branch. New York. Price \$3.25.

This book has been brought up to date in this last edition, including vaccine therapy and gland extracts. It also covers in short and suitable accounts electrotherapy, radiotherapy, artificial hyperemia and colloids.

This is a most excellent hand book for dentists for ready reference. While not intended as a complete treatise on dental materia medica it gives all that is practical on properties, actions and application of drugs and of drug laws of utility or interest to the dental surgeon.

H. N. J.

CHEMISTRY FOR NURSES: A Textbook of Chemistry for Nurses. By Fredus N. Peters, A. M., Ph. D., formerly Professor of Chemistry and Director of Laboratories, Kansas City College of Pharmacy; Professor Organic Chemistry Hahnemann Medical College; Director of Laboratories and Professor of Chemistry and Metallurgy, Kansas City Dental College, etc. Second edition. Illustrated. C. V. Mosby Company, St. Louis. 1923. Price \$2.50.

The author of this excellent text book for nurses is the author of several kindred books and understands very well how to make the subject matter practical and suitable for use. The text is simply written and avoids unnecessary technical phrases. The author has added a variety of practical tables for quick and serviceable usage.

H. N. J.

PRACTICAL PHYSICS. By J. A. Crowther, Sc. D., F. Inst. P. Sometime Fellow of St. John's College, Cambridge; Demonstrator of Physics in the Cavendish Laboratory. Henry Frowde and Hodder and Stoughton, London. Oxford University Press, American Branch. New York. Price \$3.25.

This volume of English parentage and birth covers the field in a practical way for students' preparatory work for pre-medical courses. The author's experience as a teacher together with his plea for clearness, accuracy and saneness of procedure have admirably fitted him for the task of elucidating practical physics for students. Following the chapters are suitable questions and examinations for trial.

J. N. J.

NOUVEAU TRAITE DE MEDECINE. Publie sous la direction G. H. Roger, Fernand Vidal, P. J. Teissier, et M. Garnier, Secrétaire de la Rédaction. Fascicule VIII. Pathologie des Glandes endocrines: Troubles du développement. Boards. Price, 40 francs. Pp. 453, with 107 illustrations. Paris: Masson et Cie, 1923.

The general subject of this volume is endocrinology. The subjects and authors are: Developmental Disorders, by Pagniez; Pathology of the Pituitary, by Sézary; Acromegaly, by Sougues and Foix; Pineal Gland, by Sézary; Thyroid Gland, by Apert, Sougues and Foix; Parathyroid, by Harvier; Thymus, by Bory; Suprenals, by Josué and Godlewski; Sex Glands, by Apert; Pluriglandular Syndromes, by Claude and Baudouin.

As the summary of the contents just given would indicate, this volume contains an excellent review

of the established facts regarding the internal secretions. The articles are quite succinct and clear. The range of reference is fairly complete, although on might question whether the best of American work had been consulted.

This would make an excellent one volume text for use in our daily work.

G. H. H.

LES CANCERS. Par E. Duroux, professeur agrégé à la Faculté de Médecine de Lyon. Chirurgien chef de l'Hôpital Sainte-Foy. 1 volume de 268 pages. Paris. Masson et Cie, Editeurs. 120 Boul. St. Germaine. 16 fr.

This book covers the entire subject of cancers. The author begins with the causes in which he emphasizes the possible relation of syphilis to cancer. The work is evidently intended to be elementary for he goes to considerable length in explaining that some people acquire syphilis in an innocent way, concluding that the possession of syphilis is "not a diploma of immorality." He expresses this with all the enthusiasm or recently acquired knowledge. The sole argument as to the relation of syphilis and cancer is based on the frequency of both diseases. The remainder of the book is more or less orthodox and is of use to the beginner who wishes to try his mastery of the French language.

A. E. H.

CANCER OF THE BREAST; with a study of two hundred and fifty cases in private practice. By L. Duncan Bulkley, A. M., M. D. Senior physician to the New York Skin and Cancer Hospital, etc. Philadelphia: F. A. Davis Company, 1924. With forty illustrations. 336 p. Price \$3.50.

Yet another book from Dr. Bulkley's prolific pen. Age does not alter nor customs change his infinite monotony. This time "Cancer of the Breast" is the title which cloaks the well worn theme, "The Medical Treatment of Cancer."

Dr. Bulkley is indefatigable. At seventy-five or so he is still working early and late upon this pet hobby of his.

For years he has laid himself open to the adverse criticism, scorn and obloquy of the greater part of the medical profession by advocating this method of treatment and excluding surgical measures from consideration. This short-sighted policy has alienated numerous potential friends and supporters. For many men have felt, and many more believe today, that the tendency to carcinosis springs from a constitutional failing; a physical perversion of cells due to a disturbed metabolism.

Dr. Bulkley mentions the fact that his attention was first drawn to this subject by the improvement of cancerous (presumably) patients who were under dietetic, hygienic and medical treatment for certain skin affections. Today has become more and more our aim to reach the *underlying cause* in our treatment of disease regardless of the prominence of one or more symptoms.

Formerly we "prepared" a patient for operation in a few minutes while he was on the table. Now pre-operative treatment sometimes consumes weeks. We even hear of preparing a patient for anesthetic. Why not "prepare" a cancer patient? If delay is dangerous, why not carry out a prolonged and painstaking post-operative treatment? Why not keep these people under a strict "dietetic, hygienic and medicinal" regime (to quote the author) as long as there is a shadow of doubt of the ultimate outcome.

As has been said, Dr. Bulkley stultifies himself by decrying surgery and inveigling against it. This is a generous error in judgment on his part. His writings in the hands of the unthinking could work great harm. But let him take his stand by the side of surgery, as fervently insisting upon his method of treatment in preoperative, postoperative and inopera-

ble cases, and nothing but good could be the result.

The "dietetic, hygienic and medicinal measures" followed by Dr. Bulkley have produced favorable results in cancerous cases undoubtedly. The same routine would be conducive to longevity in any subject, sick or well, who regulated his life by it.

For those who feel that there is nothing to be done after surgery, X-ray and radium have failed (or while they are being employed) this small volume offers quite a number of hopeful suggestions.

W. D. H.

THE TREATMENT OF THE COMMON DISORDERS OF DIGESTION. By John L. Kantor, Ph. D., M. D., Chief in Gastrointestinal Diseases, Vanderbilt Clinic, Columbia University. A handbook for physicians and students. Illustrated. St. Louis. C. V. Mosby Company. 1924. Price \$4.75.

Dr. Kantor has rendered the profession definite services in publishing this work. The book is particularly adapted to the general practitioner, but should not be overlooked by the internist or gastrointestinal specialist. Instead of writing an index for remedies to be taken in gastrointestinal disturbances he makes an effort to present the principles of treatment based upon correct methods of diagnosis. It is an effort to help the general practitioner think in terms of diet and general hygienic measures rather than of his prescription pad and the apothecary shop.

The illustrations are particularly good and the subject matter is clearly and concisely presented. The treatment of functional disorders of digestion is especially commended.

H. W. S.

THE SCIENCE AND ART OF ANESTHESIA. By Colonel Wm. Webster, D. S. O., M. D., Professor of Anesthesia, University of Manitoba Medical School. Illustrated. St. Louis. C. V. Mosby Company. 1924. Price \$4.75.

This book is highly commendable. It covers the subject most thoroughly. Every medical student should study it. The book is specially recommended to those specializing in anesthesia, for this is one branch of medicine which is sadly neglected. Too many men who give anesthetics are uninformed as to the reactions and the classification of symptoms of the condition of their patients.

E. J. S.

DIABETES. A handbook for physicians and their patients. By Philip Horowitz, M. D. with 34 text illustrations and 2 colored plates. Second edition. Revised and enlarged. Paul B. Hoeber, Inc. New York. 1924. Price \$2.00.

This little handbook will appeal to those wishing to acquire an up to date knowledge of diabetes and who do not care to purchase one of the more extensive works on the subject. It fully describes a working method for treating diabetes by diet alone when feasible and by diet and insulin when indicated. It contains food analysis tables, recipes for diabetic dishes, and a description of the ordinary urine and blood tests.

The treatment of diabetes employed by Horowitz is along well authenticated lines, although in some minor particulars we differ with him somewhat in the choice of his methods. In the management of mild diabetes amenable to dietetic measures alone the author uses the Allen method, omitting however the preliminary starvation. He starts the patient on a low calorie diet, which is gradually increased from day to day. The proteid factor of the diet is made high while the carbohydrate and particularly the fat constituents are kept very low. We think time can be saved in these cases by adopting the Woodyatt diet scheme. This starts with as many calories as the patient's glucose tolerance will permit. The pro-

teid is made as low as is compatible with the maintenance of nitrogen equilibrium. The amount of carbohydrate depends on the patient's glucose tolerance and the amount of the fat is put as high as is possible without danger of acidosis.

F. N.

GERIATRICS. A treatise on the prevention and treatment of diseases of old age and the care of the aged. By Malford W. Thewlis, M. D., editor, Medical Review of Reviews; associate editor, the Therapeutic and Dietetic Age. With introductions by A. Jacobi, M. D., I. L. D., and I. L. Nascher, M. D. Second edition, revised and enlarged. St. Louis. C. V. Mosby Company. 1924. \$4.50.

This is the second edition, the first having been published in 1919. It reproduces the introduction by Abraham Jacobi from the first edition and another by I. L. Nascher, of New York.

In this edition the text is revised and several chapters have been added to the first edition. The most important of these are Electrotherapy, Opotherapy, Senile Heart Disease, Asthma, Empyema, Influenza, Rheumatism, Pruritus Senilis and Hepatic Cirrhosis.

The book is interesting and will be of service to those who are seeking to alleviate the troubles of their aged patients.

G. H. H.

DIAGNOSTIC METHODS.—A guide for history taking, making of routine physical examinations and the usual laboratory tests necessary for students in clinical pathology, hospital internes and practical physicians. By Herbert Thomas Brooks, A.B., M.D., F.A.C.P., Professor of Clinical Medicine, College of Medical Evangelists, Los Angeles, California. Fourth edition. 52 illustrations. St. Louis: C. V. Mosby Company. 1923. Price \$1.75.

The outstanding feature of this book is the brevity and yet completeness with which it is written. Another striking point is the systematic order followed by the author in dealing with the various subjects. He briefly touches on all the salient points in the routine examination of a patient.

The first two chapters cover the field of history taking and complete physical examination of the patient. The next chapters deal with the examination of the various fluids, including sputum, urine, gastric contents, blood, feces and serous fluids. The following chapter takes up the technique of staining and the examination of smears and exudates. The concluding chapters cover the Wassermann reaction, complement fixation test for gonorrhea, and tuberculin diagnosis. In addition to the above subjects, the author gives a complete description of the reagents and apparatus necessary.

This work is a valuable book for reference and a general guide for medical students and practicing physicians.

A. J. R.

ANNUAL REPRINT OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR 1923. Cloth. Price, postpaid, \$1.00. Pp. 72. Chicago: American Medical Association, 1923.

This volume contains the unabridged Council reports that have been adopted and authorized for publication during 1923. Some of the reports, due to their technicality, have only been abstracted in THE JOURNAL; others have been published in entirety, and still others have never been published elsewhere.

In this volume the Council sets forth the reasons that certain proprietary remedies were found unacceptable for New and Nonofficial Remedies, the reason why it has been deemed wise to omit certain hitherto accepted articles from the present, 1924, edition, of New and Nonofficial Remedies, and the

volume also contains certain preliminary reports on products that have therapeutic promise, but are as yet in the experimental stage. There is a long report on the widely advertised Fleischmann's Yeast, which was not found acceptable. Benetol, another article that has had much mention in the daily press, receives attention. There are reports on apiol and mercurial oil, which have been omitted from New and Nonofficial Remedies. In addition to these types, there are preliminary reports on bismuth in the treatment of syphilis, ethylcne as an anesthetic, peptone in the treatment of migraine, and tryparsamid; and there are reports of such general interest as that on intravenous therapy and that on progress and conservatism in therapeutics.

For one who wishes to be cognizant not only of what the Council has done, but why it has done it, the book will be very valuable, for it supplements New and Nonofficial Remedies with a more detailed account of the activities of the Council during 1923. New and Nonofficial Remedies records those proprietary remedies which have been accepted; Council Reports treats those which have been found unacceptable, and those which give promise of becoming valuable.

THE CIRCULATORY DISTURBANCES OF THE EXTREMITIES. Including Gangrene, Vasomotor and Trophic Disorders. By Leo Buerger, M.A., M.D., New York City. With 192 illustrations, five in color. Philadelphia and London. W. B. Saunders. 1924. Price, \$8.50.

There is probably no other field in the realm of clinical medicine that is more dominated by confusion than that which embraces the circulatory derangements of the extremities, and no American investigator better equipped to elucidate this chapter than Dr. Buerger, whose clinical researches have extended over many years.

The book opens with a concise, fairly complete resume of the anatomy, general physiology and nervous control of the peripheral circulation; both here and in the final chapters of the book, the latest observations on capillary structure, control and independent contractility are considered. Gangrene is thoroughly discussed not only as a terminal feature of circulatory disturbances but also as related to less pertinent causative agents such as microbic infection, various chemicals and drugs. Thromboangiitis obliterans which owes its recognition as a distinct pathologico-anatomical entity largely to the researches of the author, is really the keystone of the book. The author states that a thorough understanding of this interesting malady with its varied subjective and objective manifestations will lead to a correct appreciation and diagnosis of the other organic as well as vasomotor disturbances of the peripheral circulation. Intermittent claudication is considered only as a symptom of vascular obstruction which may arise from many causes and not as a morbid clinical entity. This appellation is limited to include only the cramp-like pains in the feet or legs brought on by exercise and does not embrace the various vasomotor symptoms which may or may not occur during the attack. Various other signs of arterial obstruction from any cause such as chronic erythromelia, induced erythromelia, ischemia on elevation, and absent pulsation of palpable arteries are discussed in detail so that their presence in other conditions, such as arteriosclerosis, is made clear. The characteristic pathology of thromboangiitis obliterans is discussed under two headings; the first includes the salient features with which the clinician should be acquainted while the second is devoted to a detailed discussion of the histo-pathology.

Under embolism and thrombosis the operation of

arteriotomy with embolcctomy is favorably considered. He states that "the early removal of an occlusive clot from the large arteries of the extremities gives promise of being an effectual method of coping with impending gangrene of embolic nature."

Raynaud's Disease and the various other vasomotor and trophic neuroses are ably discussed and an attempt is made to separate the former from the transient angiospasm so common in those of neurotic temperament and also from the vasomotor phenomena which accompany organic diseases, such as thromboangiitis obliterans.

On the whole it can justly be acclaimed as one of the best treatises on this subject in modern medical literature and will be found of great value to both surgeons and internists. Because of its refreshing freedom from archaic dogma it should also be of interest to those physiologists who strive to solve certain clinical enigmas by laboratory research.

C. M. W.

REVIEW OF THE PHYSIOLOGY AND GENERAL PATHOLOGY OF THE SYSTEM OF BODY CAVITIES. By Ch. Achard, Professeur de Clinique Médicale à la Faculté de Médecine de Paris, Membre de l'Académie de Médecine. 126 pages, with 29 illustrations. Paris. Masson et Cie. 1924. Price 10 fr.

Under the term *Système Lacunaire*, the author understands the entire collection of disconnected cavities in which is enclosed the greatest part of the liquids of the body. In man and the higher mammals the *système lacunaire* comprises the inter-cellular spaces, the connective tissue spaces, the subarachnoid spaces with their annexes in the internal ear and eye, which contain the endolymph and perilymph, the aqueous humor and the vitreous body,—in short, all the serous cavities of the body. The serous fluids differ in different parts of the body. Thus, there are the lubricating serosities, the supporting fluids, etc.

The problem of the author was to study the formation of these serous fluids and the method of exchange between the lymphatics, blood stream, etc. He finds that the problem is not merely physiochemical as performed in the test tube, but has also to do with the vital or biochemical factor. The author shows that these fluids have much to do with the nutrition of the cells with which they are in contact.

The pathology of this system is discussed under the head of "hydrops, dehydration," etc. The author expresses some opinions as to the therapeutic indications brought out by the facts developed in his study.

An appendix contains a valuable collection of analyses of the different serous fluids.

G. H. H.

INTRANASAL SURGERY. By Fred J. Pratt, M.D., F.A.C.S., Assistant Professor, Eye, Ear, Nose and Throat, Medical School, University of Minnesota, and John A. Pratt, M.D., F.A.C.S., Assistant Professor, Eye, Ear, Nose and Throat, Medical School, University of Minnesota. Cloth. Price, \$5 net. Pp. 334, with 195 illustrations. Philadelphia: F. A. Davis Company, 1924.

As the title indicates this book is confined to operations performed inside the nasal cavities.

The relative merits of various operations for the same correction is not given but the authors limit their selections to a typical operation that they have adopted, including several original operations devised by them. These are described in full and most of the illustrations throughout the volume are clear, complete and instructive.

The publisher's workmanship is to be highly commended.

O. J. D.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies

Issued Monthly under direction of the Publication Committee

Volume XXI

St. Louis, Mo., August, 1924.

NUMBER 8

E. J. GOODWIN, M. D., EDITOR

901 Missouri Theatre Building, St. Louis, Mo.

PUBLICATION COMMITTEE { W. H. BREUER, M. D., Chairman
C. B. FRANCISCO, M. D.
M. A. BLISS, M. D.

ORIGINAL ARTICLES

TREATMENT OF NASAL (SPHENOPALATINE-MECKEL'S) GANGLION IN HAY FEVER*

From the Laryngological Department, Washington University School of Medicine

R. J. PAYNE, M.D.

ST. LOUIS

The earliest observations recorded in literature on the influence produced by lesions of the nasal (spheno-palatine-Meckel's) ganglion appear in the *American Journal of Medical Sciences* in an article written in 1856 by J. M. Carnochan entitled, "Exsection of the Trunk of the Second Branch of the Fifth Pair of Nerves Beyond the Ganglion of Meckel's for Severe Neuralgia of the Face." (Tic douloureux.) The author says, "the second branch of the fifth was exposed at the infra-orbital foramen and followed along the roof of the antrum and floor of the orbit to the spheno-palatine ganglion, the nerve with the ganglion being removed en masse." He further states, "I believe that in such aggravated cases of neuralgia the key to the operation is the removal of the ganglion of Meckel's or its insulation from the encephalon. Whenever a large portion of the trunk of the second branch of the fifth has been simply exsected from the infra-orbital canal the ganglion of Meckel's continues to provide, to a great extent, the nervous ramification which will still maintain and keep up the diversified neuralgic pains. Besides the ganglion of Meckel's being composed of gray matter it plays an important part as a generator of nervous power, of which, like a galvanic battery, it affords a continuous supply while the branches of the ganglion under the influence of the diseased trunk serve as conductors of the accumulated morbid nervous sensibility."

No further mention appears until Sluder¹ published, early in the twentieth century, his observation on the effect of ganglion block in the presence of a symptom complex of head pains summed up in "lower half headache," which should not, however, be confused with

major neuralgia of the trigeminus (tic douloureux). This headache may also be produced by irritation of the nerves which supply the ganglion. This pioneering opened a field for study of a heretofore hidden region and has afforded explanation and a better understanding of maladies formerly unexplained. Ganglion anesthesia has been utilized in the Washington University Clinic for some years, with its application growing wider and wider until at the present time we have data of its influence on many forms of nasal maladies. The pronounced effect of chemicals and drugs are upon the sensory and secretory apparatus. However, there is a motor influence also, as shown in the palatal arch. Many obscure head pains speedily disappear under ganglion anesthesia, to reappear and vanish again following subsequent applications, in such mathematical precision that there can no longer be any doubt as to its control. We have also observed the control in torticollis,² otalgia in otitis media, toothache,³ glossidinia⁴ and all eye pains.⁵ It has been observed in nasal hydroporrhea or hyperesthetic rhinitis that the symptoms may be controlled by ganglion anesthesia; that is, the itching, sneezing, discharge and gradually the intumescence. Many of these cases are permanently relieved by repeated cocainization; others require further treatment of the area with silver, phenol, etc., while the still more resistant type requires alcoholic injection and some reinjection of the ganglion cells to alleviate the symptoms.

This procedure in the perennial type of hyperesthetic rhinitis is no longer speculative, but is classed as the specific treatment in our clinic and is advised just as quinine in malaria, but never without first excluding such local influences as polypi, sinus infection, etc.

There are types which demonstrate to a nicety the influence of nasal ganglion block. The following is a case report of one of the many typical cases treated:

Miss M. O., thirty years old, unmarried, history negative and unimportant, excepting for the last one and one-half years when she has had a terrific nasal discharge increasing in severity until she carried a bath towel in preference to using twelve or fifteen handkerchiefs a day. The diagnosis was made as hyperesthetic rhinitis. The ganglion was anesthetized

*Read before the Sixty-Seventh Annual Meeting, Missouri State Medical Association, Springfield, May 6, 7, 8, 1924.

with almost immediate cessation of all symptoms. She was advised to return on reappearance of symptom, which she did on the fourth day. The ganglion was again cocaineized with the same result. This was repeated five or six times with nearly uniform results. The ganglion was then injected with 95 per cent. alcohol containing 5 per cent. phenol, with a complete ablation of her disturbances. The case was seen about one year after and there had been no return of the trouble.

Some years ago the possibility of controlling hay fever by the same method occurred to me, hay fever being a member of the same family of hyperesthetic rhinitides, but manifest in the superlative degree. Not until the summer of 1922 did I have the opportunity to institute the ganglion block in this type of case. Three cases were injected during the hay fever attack; the treatment was successful in two cases for that season and the symptoms did not reappear the following season. The third case was lost sight of and no information has been obtainable.

During the hay fever season of 1923 I succeeded in making alcoholic injections into the nasal ganglion of forty-three hay fever cases with such satisfactory results as to give a most optimistic view of the treatment. These cases were not all tested for the specific pollen, but were injected irrespective of the type of the disease which varies from early spring until fall. The isolation of the specific pollen is often like the proverbial grain of wheat in the bushel of chaff, not worth the search, as pollen antigen has fallen far short of our expectations. Clawes⁶ states that in a series of 100 cases 25 to 30 per cent. show alleviation, 30 to 40 per cent. marked improvement, the rest unimproved. Other observers⁷ working on this theory are not producing as high a percentage of cures.

The forty-three cases were all treated during the attack. The results vary from an amelioration, such as to cause the individual to suffer but little discomfort, to complete relief. In three cases only was there complete failure to produce any relief whatsoever. The report of typical case:

Mr. H., Cape Girardeau, Mo., 50 years old, sedentary habits; history and physical findings negative except for slight albuminuria. Has had hay fever for the last sixteen years. He presented himself for treatment August 15 with typical hay fever symptoms, sneezing, nasal discharge, photophobia, lacrimation, itching of the eyes, edematous inferior turbinates actually protruding from the vestibules. On August 16 a bilateral ganglion injection was given. In three days' time all symptoms had disappeared and remained so throughout the hay fever season.

In four cases asthmatic attacks occurred at intervals during the hay fever affection, in two cases it occurred at other seasons of the year when the patient was not suffering from

hay fever. In all six cases there was a cessation of the asthmatic attack. In none of the cases injected for hay fever has there so far developed a single case of asthma.

The first complete successful treatment of hay fever was climatic. It has long been known that many of the victims of this disorder could escape their annual summer attacks by a temporary or permanent change of residence and on this account hay fever resorts have become popularly known both in this country and abroad. But this is not always practicable nor economically possible. The number of cases is increasing yearly with the demand for a more practical solution, to which the ganglion injection promises much.

That hay fever is incident to pollen is no longer theoretical, but its specific action remains yet for solution. Whatever may be the portal of entry or action on other tissues and fluids of the body it is certain that the nasal nervous mechanism suffers the brunt of this invasion and can be relieved by the ganglion block.

An interesting observation on aviators suffering from hay fever disclosed a sudden and complete relief of all symptoms on reaching an altitude of 2,000 feet. Stein,⁸ who first used alcohol injection of the nerves for hay fever, limits the injections to the nerve branches, that is, the anterior ethmoidal and the branches of the nasal ganglion as they emerge through the sphenopalatine foramen into the nose.

Other recent observers claim some success following injections of small quantities of alcohol into the turbinates and along the septal wall. If it were possible to inject all branches within the nose it is my belief that there would still remain many failures to cure. That the key to the operation is the isolation of the nasal ganglion from the encephalon is suggested by the high percentage of cures following the injection of the ganglion substance, but this is obviously difficult of proof.

Technic.—The nasal mucosa is reduced by the application of a weak solution of cocaine and one to one thousand adrenalin to facilitate entrance into the nose, as in the usual case both nares are completely blocked by edematous membrane. A drop of saturated aqueous solution of cocain hydrochloride on a cotton-wound applicator is placed over the ganglion region, which is just posterior and superior to the posterior tip of middle turbinate (the sphenopalatine foramen) and allowed to stay five minutes. It is then withdrawn and placed below the middle turbinate near its posterior tip. A straight, bevel-pointed needle 10 cm. long, 16-18 gauge, attached to a glass syringe holding one-half c.c. of 95 per cent. alcohol containing 5 per cent. phenol, is inserted under the posterior tip of the middle turbinate and

passed backward, upward and outward into the sphenomaxillary fossa and into the substance of the ganglion. A curved needle instead of the straight may be used to enter through the sphenopalatine foramen in those cases in which the landmarks have previously been destroyed by middle turbinectomy. If the injection has been satisfactory, as soon as the cocaine wears off (15 to 30 minutes) there begins the anterior part of the "lower half" headache, and about one hour later the posterior part is felt. The headache usually lasts about two hours.

IMPRESSIONS

To date only one case has been injected before the hay fever attack, but it is my belief that the cases could be treated more satisfactorily if the injection were made before the onset of the syndrome for the following reasons:

1. It would facilitate the injection, as with the swollen, water-logged nasal membrane, it is more difficult to inject the ganglion satisfactorily. When the attack is once on there is an explosion of controlling forces, the equilibrium is upset, there is a nearly complete loss of vasomotor constriction and the tissues of the nose are actually drowned in their own secretions.

2. On general principles it would seem more rational to inhibit a potential irritability before the onset of the functional disorder, acting on the principle that it may be easier to prevent than restore. The failures following this technique may be explainable on this ground, yet it is more probably an error in execution.

3. The reaction to the injection is greater when the tissues are possibly devitalized and the normal protective forces are lowered. In a large percentage of cases the reaction was severe. Within a few hours the nasal secretion changed from a serous to a muco-purulent discharge and all symptoms were accentuated. They gradually subsided, however, and on the third or fourth day were free of symptoms.

CONCLUSIONS

Two cases injected in 1922 were completely relieved and had no return of the disease in the following season. Forty of the forty-three cases injected during the past season were completely relieved.

A sphenoidal sinus lesion, by virtue of its close proximity to the fifth and vidian nerves which course its lateral wall, may produce a symptom complex simulating hay fever. The attack may be precipitated not only by the various pollens but by any finely powdered particles, such as flour, dust, etc., and should not

be confounded with true hay fever. In this type of case the nerves are affected central to the ganglion, the injection of which does not produce the desired results, hence the importance of careful postnasal examination. The sphenoidal region particularly should be studied in those cases where ganglion injection fails.

These results are most encouraging and even though the relief should prove to be only temporary, that is for the season, it is still a great boon to the sufferer.

University Club Building.

REFERENCES

1. Sluder, Greenfield: The Role of the Sphenopalatine (Meckel's) Ganglion in Nasal Headaches, *New York Medical Journal*, May 23, 1908.
2. Headaches and Eye Disorders of Nasal Origin, 1918, C. V. Mosby Co., St. Louis.
3. Relief of Torticollis by Ganglion Cocainization. R. J. Payne. (Unreported.)
4. Toney, L. E.: Relief of Lower Toothache by Cocainization of Nasal Ganglion. *Journal American Medical Association*, November 19, 1923.
5. Dean, L. W.: *Transactions Southern Medical Association*, 1921.
6. Sluder, Greenfield: Headaches and Eye Disorders of Nasal Origin, 1918, C. V. Mosby Company, St. Louis.
7. Clawes, G. H. A.: Treatment of Hay Fever by Vaccination with Plant Pollen. *Johns Hopkins Hospital Bulletin*, 1916, xxxix, 87.
8. Rackemann: Specific Treatment of Hay Fever, *British Medical and Surgical Journal*, 1920, clxxxii, 295-301.
9. Agar: *British Medical Journal*, London, 1920, xi, 125.
10. Walker: *Journal American Medical Association*, lxxv, 782-789.
11. Selfridge: *Laryngoscope*, 1920, xxx, 611-625.
12. Kaesser, K. K.: Specific Treatment of Hay Fever, *Forsheimer's Therapeutics of Internal Diseases*, 114, v, 671.
13. Stein, O. J.: *Interstate Medical Journal*, 1910.
14. Hansel, Frank K.: Vasomotor Rhinitis. *J. A. M. A.*, January 5, 1924.

ANALYTICAL STUDY OF 100 CASES OF SELECTED VESICAL NECK OBSTRUCTIONS OPERATED BY THE AUTHOR'S CAUTERY PUNCH*

JOHN R. CAULK, M.D.,

ST. LOUIS.

I have chosen to discuss the ever important problem of lesser grade obstructions at the internal vesical orifice, their clinical classification, diagnosis and therapy with particular reference to the value of the cautery punch operation which I described in 1920.

Let us consider all of these obstructions clinically as being different degrees of contracture and divide them into the bar type and the collar type. The bar obstructions have been freely discussed and are perfectly well understood, but the so-called involvements, because of their variegation, need further illumination.

In our classification we have divided this type of obstruction into four classes:

First, slight vesical ingrowths completely encircling the orifice, appearing cystoscopically as a thickening completely around the neck, in no

*Read at the Sixty-Sixth Annual Meeting, Missouri State Medical Association, Joplin, May 8, 9, 10, 1923.

place allowing the orifice to be flush with the bladder wall.

Second, the degree is more pronounced and added to this circular collar arrangement there

such cases are what might be termed the border line ones between major and minor surgery. These are the cases which require the most scrupulous examination and should al-

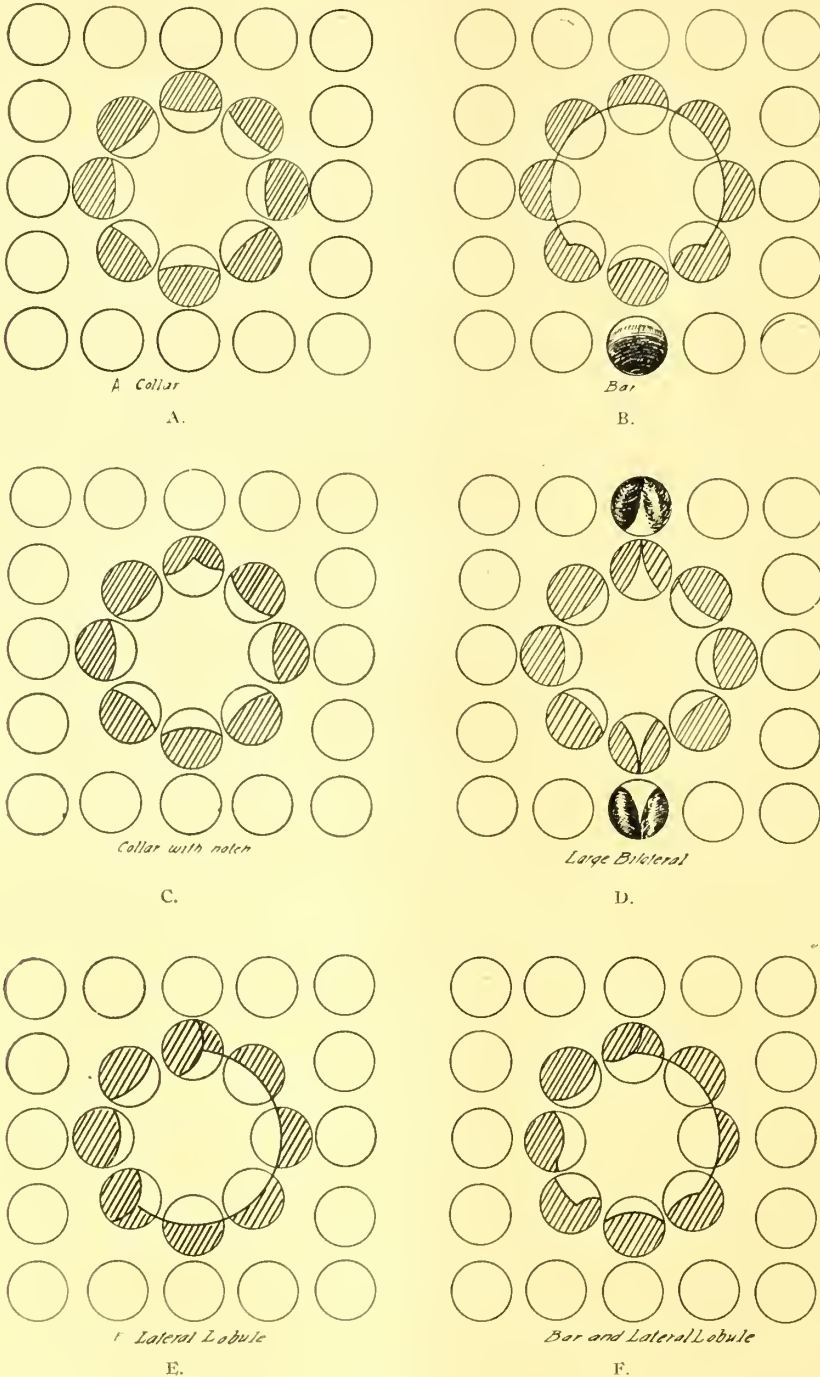


Fig. 1.

is liable to be enough bulging to be productive of shallow clefts, particularly above.

Third, the degree that shows considerably more intravesical bulging and deeper clefts and

ways be given the benefit of the doubt in their surgical classification. In this degree I have included lobular protrusions which may occur at any area on the sphincter, this type having

occurred in our series so commonly in patients who have had previous operations. Sections of tissue removed from these orifices have shown varying degrees of adenomatous and connective tissue composition.

The fourth degree comprises dense scleroses which are commonly termed true vesical neck contractures. These dense contractures have in each instance been composed microscopically of dense scar tissue. Very rarely have there been glandular elements.

This type of orifice is frequently productive of very magnified symptoms, tenesmus and the like and has been the one type of obstruction difficult of correction and prone to recurrence.

Great care must be exercised in interpreting

tions and flabby bladders may give no rectal evidence and oftentimes very little cystoscopic evidence of obstruction. This is the type of orifice frequently mistaken for neurogenic conditions. Careful observation will show thickening and pallor at the internal orifice. Often our diagnosis may be established on the passage of the instrument which gives the impression of riding over a bump upon entering the bladder.

It is only through a very thorough understanding of these types, particularly by cystoscopic study, that a proper differentiation of classes can be made and a suitable assignment given.

I call your attention to this particularly because quite a number of the patients on whom

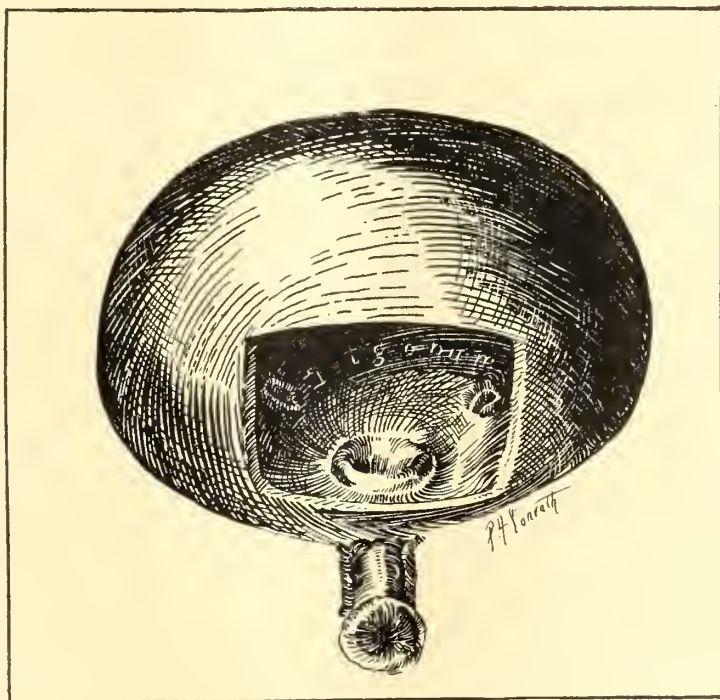


Fig. 2. Collar obstruction.

the extent of involvement, since with the marked tension and spasticity which frequently accompany this type of obstruction the prostate is occasionally enlarged through engorgement and edema, conveying the impression that prostatectomy is indicated. After cutting through the orifice and releasing the tension this edema and secondary swelling will frequently subside and the patient get an excellent result. Later examination shows marked diminution in the size of the prostate such as we are familiar with between the first and second operation of the two stage prostatectomy.

On the other hand, some of these fairly dense contractures associated with large reten-

tion we have operated successfully by means of the cautery punch have either been advised that there was no bar or collar present and that local treatment was all that was necessary, or in the larger growths have been advised that nothing but major surgery would suffice.

That we may have a thorough understanding of the applicability of this type of surgery to these obstructions, Dr. Sanford, my associate, and I have made a very careful study of 100 cases in which this operation has been done. I have endeavored to follow the admonition of Polonius to his son, "To thine ownself be true," throughout this analysis, since I realize as has often been said, that statistics can be made even to tell the truth and have tried, as

the results seemed to be so gratifying from time to time, to keep the soft peddle of enthusiasm pressed firmly until impressions were made real facts.

Randall, in a recent analysis of 800 autopsy specimens, in which he found 157 prostatic abnormalities, showed that about one-third were of the bar type obstruction. He gives 5 per cent fibrous, eight per cent glandular 11 1-2 per cent not classified and about nine per cent which were small and non-obstructive.

In my report three years ago, this type of obstruction appeared in about 20 per cent clinically. In the last year, over 50 per cent of the obstructions admitted to our office and clinic have been with the lesser degree involvements. This high percentage is, of course, due in some measure to the fact that definitely diagnosed contractures are sent for operation but more particularly because of a better acquaintance with and a more thorough understanding of the different types and degrees of these obstructions so that many such conditions formerly destined to major surgery have been found amenable to less radical surgical measures.

ANALYSIS OF CASES

In analysing these one hundred cases, 90 of them are definite obstructions of the selected type and applicable to the punch. Ten operations, which are not tabulated in the percentages, were for the removal of tags following prostatectomies due to hasten healing.

The analysis of ages follows:

(The youngest was 24, the oldest was 89.)

From 30 to 40, two cases.

From 40 to 50, eleven cases.

From 50 to 60, twenty-five cases.

From 60 to 70, twenty-five cases.

From 70 to 80, twenty cases.

From 80 to 90, six cases.

There were six patients under 45 years of age who were suffering and unable to get relief by the usually accepted measures, such as dilatations, applications and the like, and on whom major surgery would be rather extravagant. All but one of these were promptly and definitely cured by removal of the obstruction with the cautery punch.

From 50 to 70, there were 50 cases, over one-half. The majority of these obstructions may be expected to occur at the same age of the grosser ones, therefore age cannot be expected to be much of a guide between these and the larger obstructions.

There were six cases over 80 years of age and 12 cases over 75 years of age. With this high percentage of elderly individuals one can readily see the importance of minor surgical proceedings as a safeguard to lessened mortality.

SYMPTOMS

Frequency of the urination during the day occurred in 65 per cent. Night frequency was present in 96 per cent. There was difficulty of urination in 80 per cent. Pain on urination happened on 62 per cent, 35 per cent occurring in the beginning and 27 per cent at the end of the act.

Diminution in force and size of the stream occurred in 95 per cent. There was dribbling at the end of urination, denoting diminution of terminal expulsive power, in 41 per cent; incontinence in 20 per cent of the patients.

Fifteen per cent had passed blood in the urine. Complete retention of urine was present on admission or had been in the recent course of the disease in 18 per cent of the patients.

Thirteen per cent of the patients were on catheter life.

Referred pains were present as follows: Leg, 8 per cent; back, 28 per cent, penis, 7 per cent; perineum, 8 per cent.

Chills and fever occurred in 20 per cent. Uremia in 19 per cent. Nine per cent of the patients showed definite central nervous system diseases.

Sixty-eight per cent of all of these patients had received local treatment, particularly dilatations, without relief of symptoms except temporary improvements. Eight patients came in with suprapubic fistula.

In other words, the symptoms similar to the age are practically identical to those occurring with the larger obstructions and offer no material aid in different diagnosis.

There had been twelve of these patients on whom previous operations had been done, three perineal prostatectomies, five suprapubic prostatectomies, three suprapubic cystotomies and one suprapubic with radium application and another patient to whom prostatectomy had been advised.

The three perineal operations had been done ten, 9 and 8 years previously. In none of them had there been relief of symptoms. All had residual urine, one had one thousand c.c. and had a marked collar enlargement with lobules here and there around the orifice.

Three of the patients who had had previous suprapubic operations had fistula.

Two of these had been operated upon twice. All but one had residual urine in amounts ranging from 200 to 900 c.c.

Two were in extremely bad shape. One of these patients without residual urine had almost complete incontinence.

Among these patients there were three, one following perineal and two following suprapubic operations, who were in extremely bad condition, carrying very high residuals and

suffering with pronounced uremia, all having very high blood nitrogen and very low phthaline. One patient's nitrogen remained over 100 mg.

The vesical growths in these patients while not massive seemed so profuse, occurring at all parts of the orifice in the shape of lobular ingrowths here and there, that I felt that open operation would be necessary. Two of these men had very large ventral hernias. Under catheter drainage there was not sufficient improvement to warrant any major surgery. For this reason the punch operation was attempted on each of them. Two were done in 1920 and one in 1921. One patient was operated upon five times with the removal of twelve pieces of tissue. Another four times with the removal of fifteen pieces of tissue. The other required two operations and the removal of five pieces.

They all were relieved of their obstruction, two entirely and one as far as he was concerned entirely relieved; instead of dribbling and using a catheter for nine years had to get up once at night and passed a perfect stream, but there was an ounce of residual urine remaining. He had previously had a quart. The fistulæ have remained permanently close.

These patients had no reaction, were never put to bed and I feel sure were in such serious condition that a major operation would have been fatal.

The removal of many pieces of tissue from different parts of the orifice in these border line cases stimulated us to try this method on all such involvements. Our results so far have been very gratifying.

Several of these patients have gone over two years without any evidence of recontracture and at the time of burning did not pass sloughs, proving sufficiently to my mind that if the technique is proper the burning is not of sufficient penetration to produce any untoward effects.

There were three patients on whom a suprapubic cystotomy had been done, two of whom I wish to speak, had been given the first stage suprapubic preparatory to enucleation of the prostate. Both were such bad risks that prostatectomy was withheld and suprapubic drainage continued. One had been drained for eight months, the other for three months.

My cystoscopic examination showed collar obstructions in both patients, both with thickness in the median portion. Both were operated upon by the punch. Two pieces were removed from one. Within a week he was healed and well, having perfect urinary function, while previously he had been unable to avoid following dilatations and filling of the bladder. This patient was done eleven months ago. His condition is perfect at the present time.

The other patient healed suprapubically

within three days. He had a capacity of 1,500 c.c., even after such protracted drainage. I operated on him three times and removed nine pieces of tissue from different parts of his orifice, following which he voided a perfect stream but still carried 5 ounces of residual urine. Three weeks after the last operation patient went to another city to take care of some business, contracted a severe cold, developed pneumonia and died in a few days. Bladder was removed by partial autopsy and showed the obstruction to be almost completely removed, only a little lobule at the upper part of the sphincter margin. The remainder of the sphincter was perfectly smooth and showed no scarring or evidence of burning. Gave every appearance of normal bladder sphincter.

This bladder is similar to several others in the series in that it shows marked atonia. I have personally never taken much stock in the atonic bladder except as a part of the central nervous system disease, since most bladders as you know resume their function when their obstruction is removed. It is with this condition that we have to expect to institute vesical calisthenics and training along with the relief of the obstruction. Often the passage of a catheter at varying intervals for a protracted period is necessary for the accomplishment of a perfect result, even after the obstruction is relieved.

These two patients were diagnosed cystoscopically in large and important clinics by expert urologists and both were subjected to major surgery and were such bad risks that the second stage could not be completed. This exemplifies the importance of cystoscopic differentiation of these vesical neck involvements and their proper placing and grouping for surgical interference.

There were eight patients with definite cystoscopic evidences of central nervous system diseases on whom the operation was done. There has been no incontinence as a complication. On the contrary every case of paradoxical incontinence was cured with the exception of one.

There has naturally been no incontinence following my operation with this instrument and there is no reason to expect it. In the first place any sphincter can be cut completely through in one segment and heal with perfect function. With this operation the sphincter is in all probability never completely severed. In the multiple operations done for lobular protrusions the burn is naturally not deep enough to interfere with sphincter control, and again if we do not anticipate incontinence from the pronounced injury to the sphincter in suprapubic prostatectomy it would seem ridiculous to expect it in less extensive manipulations.

There have been five patients who have been treated for long periods for bladder paresis. Personally, I have treated three for several years by catheter drainage because there was every evidence of a paralytic bladder and no sign of mechanical obstruction.

Two and a half years ago I suggested to one of these patients who had a quart of residual that there was a possibility, on account of a slight thickening of his lower sphincter margin, that a punch operation might do him good. I was sure it could do him no harm. This he accepted.

The operation had the most brilliant outcome. The patient, who had dribbled and used a catheter for years was immediately restored to urination. I had lost sight of him for over a year until the questionnaire was sent. He appeared at the office and had had practically no trouble, was passing an excellent stream, no incontinence. I catheterized him and got 4 ounces of residual urine. I told him at the time of his operation that he may probably need another and this is true.

This is not a recontracture, because the patient is progressively better, but he originally did not have sufficient tissue removed.

The other cases have been with one exception relieved. One patient who carried a high residual of over one quart for many years, following two strokes of apoplexy, has received practically no benefit.

Trabeculation was present in 75 per cent, stones in two cases or 2.3 per cent, tumor in one case or 1.7 per cent, diverticulum in 4, or 4.6 per cent. Kidneys were infected in 41 per cent of the patients. A number of these were markedly so and are chiefly responsible for the high percentage of bad risks.

Briefly reviewing the symptoms and findings, it will be at once observed that there are but two things to differentiate these obstructions from the gross ones, that is the rectal examination and the cystoscopic picture, neither alone being sufficient.

Residual urine, kidney involvement, etc., are no criteria of the extent of the lesion. Very few of these patients show much rectal enlargement. This is very important in predicting that the patient may be suitable for the punch operation.

Prostate.—Prostate showed to be normal in size in 23 patients. Only slightly enlarged in 45 patients. Considerably enlarged in 11 patients. No note in 11 patients. This very important analysis showed that 65 patients out of 90 had little or no rectal enlargement of the prostate.

Urine.—The urine was infected in 58 per cent of the patients. Residual urine was present in all but 9 cases. Twenty-five patients

had from one to two ounces and 14 from two to four ounces, 15 from four to six ounces, 4 from six to eight ounces, 3 from eight to ten ounces, 7 one pint, 3 one quart, 7 complete retention, 3 cases not given. In other words 39 patients had over four ounces of residual urine.

Cystoscopic examination of the orifices revealed 36 bars, 27 obstructions of the small collar type, 14 definite contracted necks, 4 lateral lobules, 7 cancers, 2 without notes. In other words only 40 per cent of these selected obstructions were due to bars alone; 30 per cent have fallen in the class of what I have designated collars; 15 per cent true contractures; 4 1-2 per cent lateral lobules and 7.7 per cent cancer.

There have been several patients in this series in whom the collar type was present to a pronounced degree, with considerable intravesical thickening and definite notches above, but, of course, no gross lobes on whom the punch operation was done with perfect relief of symptoms. Indeed, one of the patients has had the best result in the series. These border line cases are sometimes difficult of interpretation, but when in doubt they should be given the benefit of simple measures.

The technique of this operation is familiar to you all and I shall not go into detail, but there are a few suggestions which seem important. In the first place, the proper current is the alternating current. My only difficulties have been with the transformed direct current. It is very essential to know the instrument and to understand the degree of heat required for the average obstruction. This is gained only through experience. It is our custom to run the current directly to a red heat when it is engaged and almost invariably four seconds will complete the burning.

We have to figure, of course, that the tissue takes up a great deal of the heat. This in association with the rapid burning prevents extensive cauterization.

In some of the instruments the heat has not been completely and equally distributed around the blade. This is in a great measure corrected by a marked rotation of the blade during the burning. We have frequently re-seared the site of burning by pulling backward the blade at half heat.

I am still using my original blade. Have had it repaired but once and this was simply a small rivet and the reinforcement of the sheath over the slot.

We have had no accidents with the instrument, therefore it seems that with care and attention it possesses a fair degree of durability.

In case the incision is to be made above, the patient has to be markedly elevated and the

handle of the instrument has to be greatly depressed and laterally deflected in order to get sufficient tissue. This can be, of course, observed in the jaw of the instrument. In the lobular obstructions it is perfectly easy to see the areas which need removal by rotating around the circumference of the sphincter.

ture or a small bar it is our custom to take but one deep bite. From past experience it is found that if this bite is sufficiently deep the low lateral bites have never brought away much tissue on account of the fact that the sphincter has pulled aside. This retraction with relief of tension is the chief element in relieving

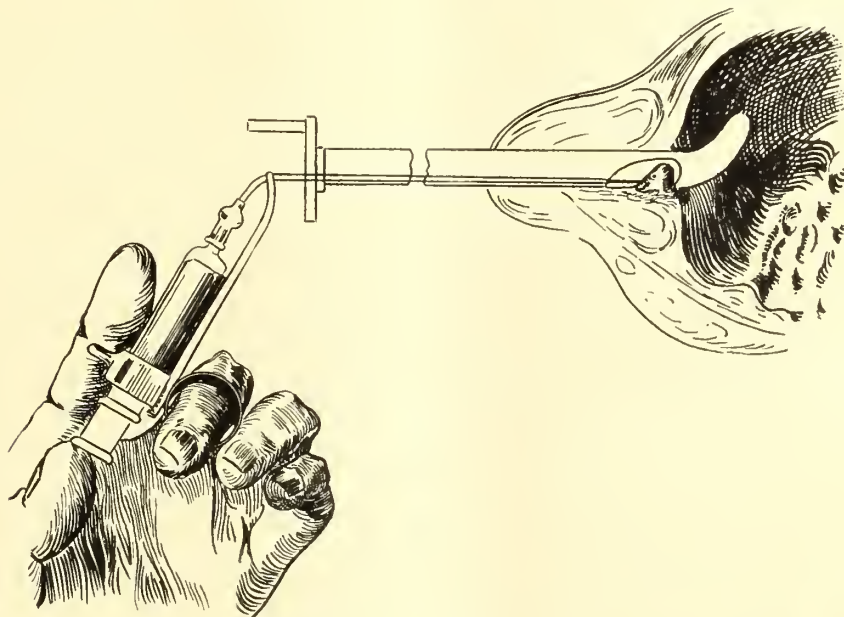


Fig. 3. Infiltration of vesical neck.

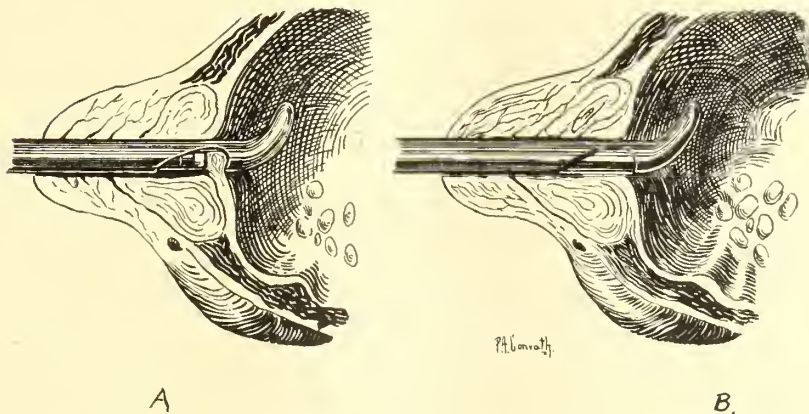


Fig. 4. A. Instrument engaging obstruction.

B. Obstruction burnt through.

I have done 67 of these operations at the office and 23 at the hospital.

In the answers to the questionnaire sent to the different urologists who are using the instrument, the chief trouble has always been with the direct current. It is advisable, therefore, to have the alternating current with this instrument.

When we are dealing with a mild contrac-

spasticity. This, of course, is indicative of the fact that sufficient obstruction is removed.

We have removed one piece only in 53 patients. Two or more pieces in 37 patients. In one of these 15 pieces were removed, in another 16 pieces. The majority of these multiple pieces were removed at different sittings and were done usually for the collar obstruction with lobular involvement around the ori-

fice or for very large medians. It has been our custom to remove in these rather large obstructions one or two pieces at a time and at another sitting repeat the operation at a different part of the orifice, in the meantime watching the patient's functional result until we are thoroughly satisfied with the outcome of the operation.

There have been repeated operations as follows: Two operations on five patients, three operations on two patients, four operations on one patient, five operations on one patient.

That is, on one-tenth of the patients more than one operation was done. This does not mean at a much later date to correct a recurrence, but simply to remove sufficient tissue in the more pronounced cases to insure satisfactory functional result. The most of these repeated operations were done on individuals who had undergone previous major surgery, either prostatectomy or suprapubic cystotomy with failure.

Except for two of these cases, there has not been the slightest appreciation of pain during the burning. They have all been done, with the exception of three, under infiltration anesthesia. They have been sacral. These were hospital cases suffering with severe vesical tenismus, two from cancer, one from sclerotic contracture, and the reason for such anaesthesia was simply for the insertion of the instrument.

Hemorrhage.—There has been but one pronounced hemorrhage in the cases operated upon and this is easily explained. There has never been a hemorrhage occurring in a patient operated upon at the office with alternating current. At the hospital, one patient operated upon with transformed direct current was torn badly because of the fact that the instrument would not go home and he had a lively hemorrhage for several days and is the only patient on whom we have had any large clots. There is not a single other patient who caused the slightest concern about hemorrhage. There is usually a little staining of the urine or a slight beginning or terminal bleeding. The majority of them ceased entirely in two days. A few had mild terminal staining somewhere between 7 and 14 days. I have seen a few last as long as 4 weeks. There has been no active secondary bleeding. In other words, no evidence of deep sloughing or infection. In fact hemorrhage has amounted to nothing in all the cases, except the one in which there was a mechanical defect.

The average patient was sent to the hospital and remained there for two days. Some of the patients were in the hospital from two weeks to two months. These were the patients who were extremely bad risks and who were in for

repeated operations, were from out of town, and several with fistula. In other words, they were kept in the hospital not on account of the operation, but for convenience.

As far as extensive sloughing is concerned, we have looked for it very carefully and have never seen it. All the patients pass a certain amount of shreds in the urine. The burning is so superficial if the heat is properly regulated that one should not anticipate a sloughing. It is for this reason that we do not get recontractures from burning.

This must not be confused with the burning out of a tissue as by the Bottini method. We really cut by burning a segment of tissue and the heat is tempered by the tissue fluid to such a degree that extensive reaction is entirely obviated.

We have studied the material removed at operations in 79 cases and as I will show you in the lantern slides, the mucous membrane is preserved in many instances to such a degree that one would not even be suspicious that it had been burned out.

In places where there is evidence of burn, this is always very superficial and the tissue adjoining shows complete histological detail. Therefore, if the tissue removed shows such complete preservation we can naturally assume that the tissue left adjoining the burn is equally well preserved and should not be subjected to enormous sloughing or late contraction.

Epidymitis has occurred in 7 patients. Five very mild, two quite acute; two happened late. Post-operative chills have occurred in 8 patients. All of these had had recurrent chills before, with high grade infection and uremia. There has been a rise of temperature in only ten patients following the operation. In comparing our previous infections it is noted that 58 per cent of the patients had infected urine. Only ten of these had reactions. There have been but two of these patients who had recurrent chills; the rest were mild rigors which were quickly over.

Retention Catheters.—The retention catheter was employed in 31 cases, or about one-third. Of these, only 7 were simple bars and of these 7 the catheter was used for a maximum of 48 hours. The remaining 24 were in more marked involvements and particularly the ones with lobular ingrowths following previous operations in contractures with very large residue in old patients and in patients with suprapubic fistula. In none of the bars or the mild collar obstructions has there been a late retention.

Results.—There was immediate improvement in stream, that is within one week, in 62 patients, or about two-thirds. The remain-

der showed improvement in from two to four weeks. Four patients, 4.4 per cent, received no benefit.

Comparison of the average night frequency of urination before and after operations in the different types of obstruction shows the following in 36 bars: the average before operation was 4 times, after operation once. Thirty-four patients got up at night before operation, two did not. Since operation, 14 patients do not get up at all and their average before the operation was three times.

In the collar contractures and those with lobules, 33 cases, there was an average of four times before operation and once afterward. Eleven cases were entirely cured of night frequency. Six of this group of patients had previous retentions of fistula. In the 14 cases of severe contractures, the average night urination before operation was six times, afterward once.

Before operation all were required to get up at night. After operation five were entirely cured of night frequency. These contractures have really given very satisfactory results. Of the 14 cases, only one received no benefit. One had recurrence after 6 months. In other words 70 per cent have remained free of symptoms.

Residual Before and After: Bars.—Twenty-five had residual before. Nine had not. Average 4 ounces. After operation, three had residual with an average of $\frac{1}{2}$ ounce. One of these patients had a definite central nerve lesion. *Collars.*—Twenty-six had residual urine, average 11 ounces. Three had no residual urine. Two had fistula. After operation but four patients had residual.

Contractures.—Fourteen cases, ten having an average residual urine of five ounces. Four no residual. After operation eleven had no residual. Three had residual urine, average $\frac{1}{2}$ ounce.

Imperfect Results.—The four patients who had no relief were as follows: Post apoplectic with one quart of residual and paradoxical incontinence, small bar and tabetic bladder. The punch was done hoping to relieve the mechanical feature of the obstruction, but it was entirely ineffective.

Another patient had a markedly contracted bladder holding only 2 ounces, carrying one ounce residual, severe contracture of the neck, generalized incrustated cystitis. Patient received no benefit.

Another patient had a large median, almost amounting to a lobe and a definite right lateral lobule. I removed the median in two pieces and two years afterward the orifice in this region is perfectly concave, showed no evidence of pallor or thickening. There is still a right

lateral lobule which is larger than formerly that the patient is going to have removed.

The last case, a young man who had a typical sclerotic bar with no other findings, I know of no reason why a result should not have been obtained.

There were five patients who received partial relief. One a doctor who had a definite bar and a very small lobule on the right upper segment. A punch operation was done a year ago. He has gradually improved and his questionnaire states that if $\frac{1}{16}$ of an inch more could be taken away he would have a perfect result.

Two other patients classed as having partial relief, previously had a quart of residual urine; both were on catheter life, uremic and had been considered as having tabetic bladders.

One patient was operated upon three times, the other twice. They are both voiding perfectly and consider themselves entirely well, but one has four ounces of residual, the other five, and for this reason I class them as partial relief.

Another patient who had an early bilateral involvement with a bar, who happened to be an instrument manufacturer asked to have the operation done. He was advised that it was not indicated. His result, however, has been far superior to our anticipation. In his questionnaire he considers himself cured but states that he still has frequency at night and some burning during urination.

There were four patients who had immediate perfect results who have given evidence of return of trouble. The first patient had a very large median, one piece removed a year and a half ago, for frequent, painful urination. He had perfect urinary function for one year, although during that time I cystoscoped him and found that all of the obstruction had not been removed. During the last six months he is getting progressively worse and needs another operation.

The next patient had a large median rounding. Operation was done two years ago. Complete relief for one year, slight return during the past year. No relief from sounds.

Another patient had a perfect result for a year and one-half and a slight return with difficulty. Dilated several times a year ago and no return of trouble since. Bar sclerotic.

The last patient to have recurrent symptoms was done two and a half years ago. He had a contracted neck with incrustated cystitis. Cystitis cleared with Bulgaria Bacilli and obstruction removed. Complete relief for six months. Frequency and irritability of the bladder since, yet he states his stream is much freer than before operation. In all probability there is a recurrent incrustated cystitis.

There were seven patients who did not answer their questionnaire and whom we were unable to locate.

Cancers.—We have used this operation for eight cases of inoperable or recurrent cancer with obstruction. In two instances it was used in conjunction with radium. Five of the patients had had previous prostatectomies with recurrence of obstruction and were given the most remarkable comfort by the removal of the obstruction by means of the punch, except in one patient where growth was so rapid that the result was unsatisfactory.

Therefore I am convinced that the justly cautious profession, having adopted the admonition of Alexander Pope in being "not the first by whom a thing is tried," can now with equal safety and just propriety follow his latter lines in being "not the last to lay the old aside."

723 University Club Bldg.

DISCUSSION

DR. CLINTON K. SMITH, Kansas City: This procedure has aided tremendously our ability to handle some of the difficult cases of obstruction in these old men. While the idea is not entirely new—we have had the punch as devised by Dr. Young for removing certain types of bladder neck obstruction for some time—it has previously been a sort of nerve wracking procedure. We went at it timidly, hoping that they would not bleed, and wondering what we could do about it in case they did bleed. Since Dr. Caulk has devised this technique we can attack these obstructions with impunity insofar as the bleeding is concerned. I have used one of these punches during the past year, and while not on a large number of cases, still my experience with it has been wonderfully satisfactory. The technique requires a trained personnel experienced in handling the device. As Dr. Caulk described it, it sounds easy, but the application of the electric current and the turning of the punch must be timed perfectly. It is extremely annoying to have a piece burnt partly through. I think these punches vary in efficiency and the peculiarities of each instrument must be known.

The class of cases which Dr. Caulk last mentioned, these obstructions which sometimes occur after prostatectomy, everybody who has done much prostatic surgery now and then meets with a case in which some obstruction still remains, and these post operative obstructions can be dealt with very satisfactorily by this method.

There is a broad phase in the presentation of this subject which has been brought to mind, the value of knowing what is inside the bladder when dealing with so-called prostatic obstruction. Any surgeon who attempts to relieve urinary obstruction in old men without an available cystoscope is going to get some diagnostic surprises on opening some of these bladders.

I should like to show one slide to demonstrate this point. It is of a patient who lives in this community and who has been treated by one of the best men in the state. He is in the early fifties, with symptoms of bladder neck obstruction. His physician could not find anything which he could call a prostate by rectal palpation. He had no way of seeing inside the bladder. When I examined the prostate per rectum I could detect no enlargement. The

man's urine contained much pus. I did not think enough of prostatic enlargement to do a cystoscopy in the office but sent the patient to the hospital for ureteral catheterization. As soon as I put the scope into the bladder I saw that I was dealing with an enlargement of the prostate. I filled his bladder with air and made a cystogram. Such cases cannot be diagnosed by rectal palpation.

DR. EDWIN SCHISLER, St. Louis: This subject is a very interesting one from a medical standpoint, especially as Dr. Caulk has so thoroughly covered the benefits and future results from his operation. Ofttimes we come in contact with patients who are afflicted with prostatic disease who are inoperable from a physical standpoint in which this operation is indicated and gives immediate relief.

DR. JNO. R. CAULK, St. Louis: I have nothing to say except to agree with Dr. Smith on the advisability of a thorough cystoscopic investigation before anything is done in the bladder because of allied conditions in the bladder—stone, etc.

We have all been particularly interested and I have naturally, on account of this instrument, on what is going to happen on this neck later. As a matter of fact, there have been but four instances of recontraction. We had four patients who had immediate excellent results who at the end of six to twelve months developed return symptoms; one had another punch with cure. The recontraction is not a thing that bothers us much. If we get it, it is so simple to punch again. You can dilate these contracted necks and they improve, but they recontract.

THE DOCTOR IN POLITICS*

G. WILSE ROBINSON, M.D.

KANSAS CITY, MO.

I certainly appreciate highly the honor of being asked to address you on this occasion. I have chosen for my subject, "The Doctor in Politics." Politics in the broader sense means the science of government. In all governments we have two general classes, the governing classes and the governed. You men are leaders in your profession in the various communities in which you live. By education and training you are the intellectual peers of any citizens in your community. Generally speaking you are all ranked as law-abiding citizens. All of you belong to the class that is governed, but what is the extent of your influence in determining who shall govern you! Are you positive or negative factors in the governmental affairs of your city, state and nation? Are your wishes consulted as to who shall govern you, who shall make and execute the laws under which you are governed? Do the political bosses or the political manipulators advise with you concerning the nomination and election of the governing class? In the majority of instances, to all of these questions you would be compelled to give a negative answer. As a class the medical profession is considered to be a negative factor in politics.

*Address at the Meeting of the Medical Secretaries' Society, Springfield, May 7, 1923.

We have taken the attitude that it is unprofessional for us to devote any real part of our time and attention to political matters. The public generally holds us responsible for public health; and yet we are not vested with the control or influence that this responsibility demands. Under present conditions the quacks and charlatans exercise more influence over legislation which pertains to health and sanitation than do the members of organized medicine.

We must bestir ourselves to a real, positive, aggressive interest in public affairs, to the end that the medical profession may demand and receive proper recognition, that our advice may be listened to and accepted in all legislation which pertains to the health and physical welfare of the nation. We can only do this by organizing our forces and working together as a unit. We have the intellectual capacity to qualify for any elective or appointive office in the nation and our ability is far superior to the average ability of those holding official positions. As loyal patriotic citizens it is our duty to give of our services to the administrative affairs of our country. More medical men should be occupying official positions, both in the executive and legislative branches of our government.

I say all honor to the medical man who will give of his time and his ability to governmental affairs. If we become positive factors in the affairs of state and in politics the voting public will soon learn to appreciate us at our real worth. What man have we elected to the senate of our state in a generation who was more honored or who had more influence in that body than our late lamented Dr. Alee? Dr. Copeland of the U. S. Senate is demonstrating his worth and influence in that body. What these have done other, many other, medical men can and should do. It is up to us to decide whether or not we shall be positive or negative factors in political affairs; whether or not we shall continue to belong to the governed class and be given little or no consideration by the governing class, or whether we shall take our place as an important part of the governing class.

We owe a duty to our country, to the public and to ourselves to abandon our policy of seclusiveness and become leaders in public affairs, especially in those matters pertaining to the health, sanitation, physical and mental welfare of the whole people.

It is our right to decide what laws shall be passed and how they shall be administered pertaining to what the educational qualifications shall be of those who pretend to treat the sick. It matters not what method of treatment is used. It is also our right to decide what laws

shall be on our statute books governing sanitation and the prevention of disease. It is also our right to determine what class of medical men shall hold official medical positions in every eleemosynary institution in the commonwealth. The rights will be given us if we but demand them and then enforce our demands by concerted action following proper organization.

937 Rialto Building.

CESARIAN SECTION—ITS INDICATIONS AND LIMITATIONS*

QUITMAN U. NEWELL, M.D.

ST. LOUIS

Cesarean section literally means the delivery of the child from the uterus through an incision in the abdominal and uterine walls. The older classification of abdominal and vaginal Cesarean section is not much used today, the term vaginal Cesarean section coming under the term vaginal hysterotomy. At the present time one understands by Cesarean section delivery of the child by an incision in the abdominal and uterine walls. The origin of the term never has been fully determined; I may quote from Williams' textbook: "It has been generally asserted that Julius Caesar was brought into the world by this means and obtained his name from the manner from which he was delivered. This explanation, however, can hardly be correct, as his mother Julia lived many years after her son's birth; and besides Julius was not the first of his name, since there is mention of a priest named Caesar who lived several generations before. The following view, however, would at least appear to be more plausible: In the Roman law as codified by Numa Pompilius, it was ordered that the operation should be performed upon women dying in the last few weeks of pregnancy. The *Lex Regia*, as it was called at first, under the emperors became converted into *Rex Cesaria*, and the procedure itself became known as the Cesarean operation."

Cesarean section no doubt has been practiced for many centuries, but like all other surgical procedures had its day of good and bad. Up to the sixteenth century it was performed only on dead women immediately after death with the hope of saving a living child.

In the period extending from 1500 to 1876 Porro described his method of amputating the pregnant uterus. The "Porro operation" is in use today. According to the best information at hand, the first Cesarean section upon a living woman was performed in 1500 by Jacob Nufer,

*Read before the St. Louis Medical Society, December 18, 1923.

a layman who operated successfully on his own wife after she had been given up by the barbers and midwives in attendance. This patient later delivered five babies through the normal channel, which tends to prove that it was not a typical Cesarean section but an abdominal operation for a full term extra-uterine pregnancy. In 1581 Francois Rousset, a Frenchman, collected histories of several so-called Cesarean sections but from that data one would suppose they were mostly full term extra-uterine pregnancies. (Full term extra-uterine pregnancy is not as rare as we formerly supposed it to be; I have had four such cases in the past ten years and have reported all of them in a previous article.) In 1619 Trautman performed the first authentic Cesarean section on a living woman. Following Trautman's work the practice was fairly common until 1777, when its use fell into disrepute and gave way for a newer operation, symphysiotomy, which thrived for a few years and it likewise fell into disrepute. During this period of Cesarean section neither the uterus nor the abdominal wall was sutured; the consequence was that most of the patients succumbed to hemorrhage or infection. Lebas, in 1769, first employed sutures to close the uterine incision but it was not used to any satisfaction until the year 1882.

Before the work of Porro the mortality was fifty-four per cent. From the year 1787 to 1876 it is recorded that not one successful Cesarean section was performed in France. The mortality was so great that one author stated that the operation was far more successful when the patient performed it on herself or allowed her abdomen to be ripped open by the horn of an infuriated bull. Nine such cases were reported with five recoveries. In 1876 Porro advised amputating the pregnant uterus and suturing the stump of the cervix to the anterior abdominal wall in order to prevent hemorrhage and infection, the two most common causes of death. This procedure was received with great satisfaction and many recoveries thus were reported.

In 1883 Sanger called attention to suturing the incision in the uterus as a means of controlling hemorrhage. His work was rapidly taken up by many others and the recoveries reported were far in excess of the Porro operation and the uterus was not sacrificed in his operation. This procedure took preference over the Porro operation and today it is the type of operation performed by all, unless some contraindication offers, and with our surgical technique perfected and the cases properly selected it is a perfectly safe operation and has a very small mortality.

INDICATIONS FOR CESAREAN SECTION.

When one attempts to read the literature he finds Cesarean section being performed for everything under the sun and there seems to be no end of the list of so-called indications. I have tried to formulate the following indications as practiced in good obstetrics:

(a) *Contracted pelvis; may be flat, transverse, or general.* We all have been taught pelvimetry but many of us often forget our teaching and I dare say most of us rely on external pelvimetry alone for classification when as a matter of fact external pelvimetry tells us but little. Internal pelvimetry is fairly accurate; the diameters of the pelvis can at least be estimated and it is the only way we can tell if the pelvis is contracted. If the conjugata vera is less than 7.5 cm. we say it is almost impossible for a child weighing 3100 gms., and that is the normal weight of a child, to pass. If the vera is between 7.5 and 9.5 cm. we say it has a 50-50 chance to pass. If the vera is beyond 9.5 cm. we say it has a good chance and that the pelvis appears to be normal. We should not always feel safe for the passage of the child just because we have a conjugata vera of 9.5 cm., for we have the outlet of the pelvis to consider. The funnel pelvis, so classified, is one in which the inlet is roomy and the outlet is contracted, the head entering the pelvis readily but the lower down it comes the firmer it becomes wedged into the pelvis. This is determined by measuring the transverse and anterior-posterior diameters of the outlet. If the bisischial measures less than 7 cm. it is almost impossible for a child to deliver.

In classifying pelvises one must be broad and exercise his good judgment before he says a child cannot be delivered through the normal passage. The stature of the patient and the size of the baby must be considered. McDonald and Auhfeld's rule for determining the size of the baby is only fairly accurate and the lines of variation are wide. It is always a good rule to seize the head of the child above the symphysis pubis and see if it can be made to enter the pelvis; if it will not then see just how much it overrides the symphysis pubis. One must likewise consider the degree of molding that the head will undergo in making its passage through the pelvis.

(b) *Myoma; large cysts; obstructive growths.* Just because a new growth is present in the pelvis complicating pregnancy one should not on that account alone consider a Cesarean section. Many pregnant uteri contain fibromyoma which, if small and situated high up in the fundus, will give no trouble; but if the fibromyoma be of large size, or is situated low down and obstructs the passage of the child, then there is only one choice of delivery

and that is Cesarean section. An ovarian cyst with a twisted pedicle, or one that has become incarcerated and interferes with the passage of the child, indicates Cesarean section. Any new growth in the pelvis that interferes with the passage of the child indicates Cesarean section.

(c) *Carcinoma of cervix*. Not many cases of pregnancy have carcinoma of the cervix but we meet a few and when such complication arises Cesarean section is strictly indicated, followed by hysterectomy or radium and X-ray therapy.

(d) *Malignancy of bladder and rectum*. With obstruction to the pelvis this complication is an absolute indication for Cesarean section.

(e) *Placenta previa centralis*. There is a great difference of opinion as to whether this condition is an indication for Cesarean section. I think most of us who have had experience with placenta previa centralis rather welcome Cesarean section if the child is not too premature. It is true that the mortality to both mother and baby in this condition is high. Obstetricians are about divided in their opinion as to whether Cesarean section,—the Champetier-de-Ribes or the Barnes bag treatment is the best. I prefer Cesarean section.

(f) *Old primiparas*. I think there is nothing better than a Cesarean section in primiparas nearing 40 years of age with the cervix long and rigid, the presentation of the child breech or transverse or the child post-mature. There are many good things to be said about this type. The chances are that this will be her only pregnancy; the cervix is long and rigid; the pelvis is fixed; the tissues are inelastic; at best a hard delivery will be necessary and the result is often a dead baby from cerebral hemorrhage or broken neck.

(g) *Eclampsia*. Not in multiparous women but in elderly women with their first baby where the cervix is long and closed and the pelvis shows some contraction and you feel that to deliver a child through the natural passage will mean disaster to the child, the Cesarean section is indicated.

(h) *Multiparous women with extensive scar tissue about cervix and vagina*. Perhaps the result of extensive lacerations at a previous child-birth, or the result of extensive operation on the upper vaginal tract. Cervical dilatation will not take place and the proper route of delivery would be Cesarean section.

The proper time for Cesarean section is before or at the onset of labor; not after the patient has labored for many hours, with the second stage in full progress and the amniotic fluid has escaped. The indication for Cesarean section should have been determined beforehand and the date set for the operation. Crani-

otomy still has its place in obstetrics and should be resorted to in the infected cases and when the child has died from prolonged labor. There is much to be said for and against craniotomy, but at this time I must confine my remarks to Cesarean section. It was hoped that extra-peritoneal Cesarean section would solve the difficulties met with in neglected and infected cases.

While this operation has its place in obstetrics and has been a great factor in lowering the mortality in these cases it has not fulfilled our expectations. There are times, I must admit, when one's judgment is taxed to its fullest capacity. At the onset of labor you had classified the patient as expecting a normal course, or at least a 50-50 chance that she would deliver through the normal passage. You have made repeated vaginal examination and labor has been forcible and of long duration, yet from causes unforeseen the head fails to come down, no progress at descent is made, the patient is exhausted and the child is living and in good condition. The treatment of Choice is Cesarean section and removal of the uterus in order to lessen the chance of infection. In most instances you will have a living mother and a living child, but unfortunately you have rendered the patient unfit for further child-bearing.

Having determined that Cesarean section is to be performed you naturally think what type Cesarean is best. The many types recommended by different operators are equally good in the hands of the experienced operator who is adapted to his particular method. The types most commonly performed are:

(1) *Conservative Cesarean Section*. This being the simplest to perform and the one most commonly resorted to I will describe the technique in detail. The patient is prepared the same as for any abdominal operation. Just as the incision is made—and the incision should be in the median line at least 15 cm. in length with the center at the umbilicus—a hypodermic injection is given deep in the buttocks of 1 cc. pituitrin and 1 cc. aseptic ergot. The uterus is delivered from the abdominal cavity and the upper part of the incision temporarily is closed with 2-3 short tenaculum forceps; and a large abdominal sponge is placed behind the uterus, packing the intestines back in abdomen and at the same time protecting the peritoneal cavity from the blood and amniotic fluid when the uterus is opened. Very little attention is paid to this step by most operators but in my opinion it is a very important one. The escape of the amniotic fluid into the abdomen sometimes is a source of infection, the high temperature seen in some cases in the first 48 hours after the operation being due, I believe, to the absorp-

tion of the fluid which is protein in character. This can be prevented by being a little careful. The uterus is opened in the median line of its anterior surface, making no attempt to miss the placenta; if the placenta is attached at this point, go through it, seize the child by both feet and deliver, taking care that your incision is ample for this purpose as very often the uterus contracts firmly and then you will have some difficulty in delivering the head. If such be the case use your left hand as a fulcrum and the head can easily be disengaged. At no time use force; nor is there reason for extreme haste. After the child has been delivered and the cord severed it is handed to an assistant who gives it the necessary care. The placenta is gently removed by finger denudation, paying special attention to the amnion and chorion as very often these are torn off from the placenta and left behind and will act as a source of infection. Determine whether the cervical canal is open sufficiently for the escape of the lochia from the uterus; if not, gentle dilatation must be effected. If the uterus does not show a disposition to contract firmly, place a very large, hot sponge or towel in the uterine cavity; this immediately stimulates contractions. Always remember to have clamps attached to the sponges. On two occasions I have known the packs to be left in the uterine cavity with great disaster. Now, being satisfied that the placenta and membranes are removed and the cervical canal open, close the incision in the uterus. I think three layers of sutures are essential; the first layer of interrupted 2-20 day chromic cat gut in the muscle only, taking care not to involve the decidua; the second layer a running suture 2-20 day chromic catgut involving the muscles and peritoneum of the uterus; the third layer a running suture, mattress sutures preferred, 2-20 day chromic catgut in the peritoneum of the uterus as a reinforcement suture. These three layers should control all bleeding and your field of operation should be dry. Drop the uterus back into the abdomen and bring the omentum over the uterus; close the abdominal incision in layer sutures.

(2) *High Abdominal Incision.* Several years ago Dr. Davis, of the New York Lying In Hospital, advocated opening the abdomen in midline between the ensiform and the umbilicus. The uterus was brought into the field and opened in its anterior surface and the child extracted. This method met with the approval of many, but in the hands of the inexperienced great difficulties might be encountered. The incision in the abdominal wall is not so roomy. The uterus is not delivered from the abdominal cavity and sometimes the head of the child is hard to deliver from

the rapidly contracted uterus. I have performed this type of section a few times and have found it very satisfactory.

(3) *Extra-Peritoneal* and (4) *Transperitoneal Cesarean Section.* When devised these operations were thought to be a great benefit when the patient was infected. In the extra-peritoneal Cesarean section the abdomen is opened low down, just above symphysis pubis, with a transverse incision. The bladder is separated from the uterus at its attachment, the uterus opened at its lowermost portion extra-peritoneally and the child and placenta extracted. In the transperitoneal section the technique is similar except that a peritoneal flap of the uterus is raised so that in closure of the uterus you have two flaps, one overlapping the other. This is supposed to make the operation doubly safe to prevent the spread of infection to the peritoneal cavity. These types of operation are extra-peritoneal and require more than the average ability to perform. Due to this fact they are not as common as the conservative Cesarean section.

(5) *Porro Cesarean Section.* This is simply removing the uterus after the child has been removed, the same as Cesarean section. The original Porro operation, which simply removed the uterus by cutting through it at the lowermost segment and fastening the cervical stump to the anterior abdominal wall, is no longer in use. The technique now in use is the same as in ordinary supravaginal hysterectomy.

(6) *Vaginal Cesarean Section.* This is now classified as vaginal hysterotomy. It is rarely performed but in some clinics its use is fairly common, especially in European countries.

POST-OPERATIVE CARE.

The care of the patient after the operation is most important. There are many little things that can happen which lead to grave complications if not corrected. Other than the normal routine post-operative care which you would give any operative case I would like to impress the following points:

(1) *Acute dilatation of the stomach.* This is a very common occurrence. It occurs within twenty-four hours after the operation, the patient becoming enormously distended, with rapid pulse, difficult respiration, cyanotic, substernal pains, very restless, and the stomach outlines extending to the pelvis. There are two reasons to offer for this condition; (a) the rapid loss of intra-abdominal pressure; (b) the sudden removal of the resting place of the stomach. During the last month of pregnancy the stomach is partly supported by the fundus and when the uterus is rapidly evacuated this support of the stomach is taken away and with

the resulting loss of muscle tone causes it to become dilated. The treatment is to lavage the stomach repeatedly and if necessary leave in place a small tube through which repeated irrigations can be performed.

(2) *Intestinal Paralysis*. Usually this comes on after twenty-four hours and the intestines become enormously distended with gas which if not evacuated leads to paralysis of the tract. The treatment is to empty the intestines by repeated enemas, turpentine stipes, etc., to abdomen; if the condition is extreme a colostomy may be necessary.

(3) *Temperature*. Often within the first twenty-four hours there is a rise of temperature to 102-104 F., which gradually declines and in seventy-two hours returns to normal. This no doubt is due to the absorption of the escaped amniotic fluid at the time of operation. A temperature coming on at a later date must be assumed to be due to some pathological condition.

(4) *Retention of Lochia*. It is not uncommon for the cervix to become closed about the third or the fourth day and the stoppage of the lochia follows. A large blood clot obstructs the cervical canal and there is retention of lochia followed by a rise in temperature. It is true that if you have an infection and a temperature of 103 to 104 F. there likewise will be no lochia; but this is a different condition from the retention of lochia due to obstruction of the cervical canal. The treatment is to dilate the cervix widely and under extreme aseptic precautions irrigate the uterine cavity with hot sterile saline solution. This method of irrigating the post partum uterus is criticized by many, but under extreme aseptic precautions it is a safe procedure.

(5) *Pyelitis, malaria, infection of uterine and abdominal walls*. The patient may have run a normal post-operative course for the first five or six days and all of a sudden develop a temperature and become quite sick. Sometimes it is rather difficult to determine just what is the matter. A systematic search for the cause will determine it for you.

Pyelitis, which is so common in pregnancy, should be your first thought. A catheterized specimen of urine is all that is necessary.

Malaria is quite a common complication in the lying-in woman. The patient may give no history of malarial infection but at some time she has been infected and the infection is deep seated; when the patient's general condition becomes lowered by the pregnancy and operative procedure the plasmodia become active, causing the patient to become real sick. Examination of the blood will determine the condition for you.

Infection of the abdominal and uterine wall.

If a temperature is present after the fifth or sixth day, the dressing should be opened and wound looked at. If found in good condition and no abnormal tenderness or infiltration is present, one should think of a deep seated infection, possibly in the uterine wall. Infection in the uterine wall is fairly common following Cesarean section due to the fact that a small hematoma formed in the wall and later became infected. This being the case the abscess either empties and is evacuated through the uterine cavity, manifested by the lochia becoming purulent instead of being reddish or whitish, or into the peritoneal cavity giving us all the symptoms of a pelvic peritonitis with abscess formation in the cul-de-sac. This can be taken care of by vaginal section and drainage. In case of a deep seated infection a leucocyte count is a great aid in diagnosis. If the infection from the uterus becomes extensive or should be picked up by the uterine or iliac vessels you will have a thrombophlebitis which may become very extensive and give you a typical milk leg in one or both legs.

LIMITATIONS.

It is an established fact that the scope of any surgical operation broadens as the technique is perfected and as the mortality and morbidity are reduced; Cesarean section is no exception to the rule. Most physicians are under the belief that Cesarean section is so simple that it is justified in more cases than it really is; they seem to have forgotten the internal forces of labor. It is therefore performed on unsuitable cases, in unsuitable surroundings, by surgeons who ignore the other tried and recognized obstetrical procedures and who seem to consider it from a surgical standpoint rather than from an obstetrical one. No surgeon has a right to perform a Cesarean section unless he is versed in obstetrical diagnosis and has gone over the case carefully and applied his indications from every angle. Cesarean section is being performed indiscriminately by surgeons who have been called in by the attending physician or midwife who after several hours of watchful waiting decides the case is one of protracted labor and the surgeon immediately agrees that section is the delivery of choice. It is this type of Cesarean section that carries such high mortality. The operative technique for Cesarean section is simple, but more than operative ability is required. The classification of the existing condition is the most important factor. The mortality of Cesarean section ranges from two per cent in well selected cases to twenty-six per cent in exhausted and infected cases. The fact is not always appreciated that the risk increases hourly after the

onset of labor. The mortality approaches ten per cent after the second stage is well established and reaches twenty-five to thirty per cent in exhausted and infected cases. The highest mortality is in those cases in which labor has persisted for many hours, repeated vaginal examinations made and an attempt at forceps delivery having failed. In this type of case it is almost impossible to open the abdomen without getting an infection, usually followed by peritonitis, septicemia and death, or if the patient survives the infection she usually is sterile.

When we think of Cesarean section being performed for malpresentations, as transverse, breech, prolapsed cord, etc., and for primary inertia, varicose veins, asthma, tuberculosis and even epilepsy, we cannot help but think of its abuse and wonder when such practice will cease.

Cesarean section is undoubtedly one of the most important operations the surgeon does today, as there is nothing more gratifying and more pleasing than delivering a woman of a living child when you know that the forces of nature would have failed to make the delivery through the natural passage.

411 Wall Building.

SOME PROFESSIONAL OBSERVATIONS IN SOUTH AMERICA WHILE ON A CRUISE IN 1923*

W. F. GRINSTEAD, M.D.

CAIRO, ILL.

With more than one hundred Fellows of the American College of Surgeons, I visited eight of the eleven South American republics, if I include Panama, which formerly belonged to Columbia.

The purpose of the cruise was to establish more cordial and friendly relations with our co-workers in the southern continent; to see how they work and inspect the colleges and hospitals in which they teach their pupils and treat their patients; also to witness the laying of the corner stone of the "Gorgas Memorial Institute of Tropical Medicine" at Panama.

In my boyhood my lessons in history and geography gave a touch of romance to that land of the equator and the tropics. My imagination painted many lurid views.

Perhaps the first thought to occur to one when actually started to that world south of the sun, is his geography. This is apt to be revised. One is apt to forget, if one ever knew clearly, that the Atlantic end of the Panama Canal is

northwest of the Pacific end. One is apt to forget that Valparaiso on the Pacific coast is nearly due south of New York on the Atlantic coast and the whole South American continent is wholly east of North America. One may forget that the sun doesn't come farther north in summer than a line from Havana, Cuba, to the tip of the Peninsula of Southern California in Mexico. This line is the Tropic of Cancer. One may forget that the sun doesn't go farther south in winter than a line from Rio de Janeiro on the Atlantic coast in Brazil to Antofagasta on the Pacific coast in Chile. This line is the Tropic of Capricorn. One may also forget that the east end of the equator is near the mouth of the Amazon river; the west end near Quito, the capitol of Ecuador.

When we go south from the equator the temperature gradually cools just as it does when we go north from the equator.

South America has not kept pace with North America in the progress of civilization and development and this fact is not wholly due to the difference in climate. They have much delightful climate. They have much fertile soil and can produce most things which we can and many things we cannot. Peaches grow wild in Argentina. Many other foods grow spontaneously with scant cultivation. Little effort is required to make a living. It is a country of wonderful resources that await development.

Why has the waiting game been played for a dozen generations—four centuries? The answer is not far to seek. The United States of North America did not send its great medical men down there soon enough. They solved their problem when they arrived. South America will henceforth "blossom like a rose."

Before our beloved, now sainted, Dr. Gorgas, Surgeon General of the U. S. Army, went to Panama, the white man could not live there. He transformed the canal zone from a pest hole to a health resort. The greatest feat in engineering that history records is the Panama Canal. The richest nation in the world built it. Theodore Roosevelt was our leader, but Roosevelt with all our wealth could not build that canal without the intervention of Dr. Gorgas. One of the greatest engineers that modern civilization ever produced tried it and failed. Why? His men died from yellow fever as fast as he could unload them there. Ferdinand De Lesseps had built the Suez Canal which connects the Mediterranean with the Red Sea. This canal separates Europe and Asia from Egypt and Africa so that big ships can pass to the Orient without going thousands of miles around the Cape of Good Hope.

A similar problem presented in separating North America from South America. Vis-

*Read before the Southeast Missouri District Medical Association at its 47th Semi-annual Meeting, Farmington, October 16, 1923.

count De Lesseps was the logical man to solve it. He started the Suez Canal in 1859 and finished it in 1869. He started the Panama Canal in 1881, with about 200,000 subscribers to the project on an estimate of \$125,000,000. In 1893 he had spent more than twice that amount and bankrupted the company. He didn't have our Dr. Gorgas to make the undertaking possible. It took the biggest medical man in the world to put it over. Dr. William Crawford Gorgas was 100 per cent an American doctor. His father was Chief of Ordnance of the Southern Confederacy during our civil war. He was also president of the University of the South. Our hero was born in the historic little city of Mobile, Alabama; therefore, he was a Southerner. In 1898 Cuba was in a fight to the death for her liberty and freedom from oppression. We had been non-combatants. "Remember the Maine." When our big Man of War with its crew of our boys in blue was swallowed up in Havana harbor we pinned the Stars and Stripes to the banner of the Cubans. They floated in the balmy breeze together. You know the rest.

Our commanding officers and our soldiers feared less the Spanish army and navy than they feared yellow fever. Havana for 150 years had been a pest hole of yellow fever. Practically all the deadly epidemics from Quebec to Brazil could be traced to Havana. The latter city was never without "yellow jack."

What were we going to do about it?

General Gorgas answered that question. Nobody knew what caused yellow fever nor how to protect themselves against its fatal ravages. It had a mortality of about 30 per cent. In 1853 the city of New Orleans lost 8,000 of its citizens in an epidemic. In 1802 Napoleon sent an army of 25,000 men to Louisiana, then a large French possession west of the Alleghenies; and on their way they were landed at Haiti to suppress a revolution that was in progress. The men became infected with yellow fever and 22,000 of the 25,000 died. In 1878 our southern states lost \$100,000,000 besides many thousands of their citizens in the epidemic of that year. The surgeon general of our army knew all this and more. He co-operated with a committee of brave army surgeons who went to Havana to search for the cause of the disease and devise methods to combat it. This committee consisted of four physicians whose names will forever adorn the pages of American history. They were Dr. Walter Reed, chairman; Dr. Agramonte, a Cuban who lived in Havana; Dr. James Carroll and Dr. Lazear, who was already stationed at Camp Columbia. They soon fixed the guilt on the female of the tiger mosquito, *stegomyia fasciata*. The proof they demonstrated to be

absolute. Drs. Lazear and Carroll exposed themselves to the bite of these mosquitos and became infected with yellow fever. Dr. Lazear died and Dr. Carroll almost died.

It would delight me to give you the details of these experiments; but they are too voluminous and absolutely inexcusable on an occasion like this. The story reads like a novel. Suffice it to say that Dr. Gorgas acted as health officer at Havana at the time and drove the disease out of its home of 150 years in seven months. There is where he got the data that he carried to Panama and accomplished the same result. The germ of yellow fever had not been identified; but this committee discovered its means of transmission and method of infection. Five years ago (1918) that famous Japanese bacteriologist, Hideyo Noguchi, long associated with the Rockefeller institute, was sent to Guyaquil, Ecuador, where yellow fever was endemic and succeeded in identifying the specific organism of the disease and his proof is being accepted by scientists everywhere.

The microbe of malaria was discovered by a French army surgeon, Leveran, in 1881; but its method of transmission and inoculation by a species of mosquito, the *Anopheles*, was not demonstrated conclusively till 1898, about the time Dr. Gorgas' committee convicted the *stegomyia*. This demonstration was made by Big-nami at Rome and Manson at London. The point I make of all this is that South America has her two great problems solved, yellow fever and malarial fever. The best civilizations of Europe, United States and Canada are now unhesitatingly sending their good blood and brains into the southern continent to explore and exploit her dormant treasures and resources.

To my surprise, the members of the medical profession appear to strike a higher average of education and training than in our own country. The requirements of the medical schools account for this. In addition to the equivalent of our high school course, the medical student must have a college course and then seven years in an approved medical school; but, in Peru for example, the exceptional student may reduce this period two years. Moreover, we were told that the medical student must be able to speak at least one language besides his own. This is usually French and most of the graduates go to France or Germany to finish their training. It goes without saying that only the sons of the wealthy families can qualify in medicine. It means something to be a physician in South America. He occupies the highest social and political positions and gets big fees for his service. At a luncheon in Lima, capitol of Peru, given in honor of our delegation by the medical profes-

sion, I was called upon by our acting president to address our hosts and toast the profession. In the course of my remarks I stated that it appeared to our party that the medical profession in South America was a real aristocracy. As the company stood, with champagne glasses sparkling in their hands, I proposed "one common medical brotherhood for all the Americas."

Their medical schools are well equipped with laboratories and other facilities for teaching their classes.

When we turn to the physician's best friend and to his patient's next best friend, the trained nurse, she is conspicuous by her absence in South America. We were all interested in an explanation of this situation. In the operating rooms we saw the surgeon threading his own needles, he and his assistants arranging their own instrument trays and doing the other service ordinarily conceded to the operating room nurses in our hospitals. In the wards we saw young women, who undoubtedly came from the ranks of the uneducated servant girls, caring for the patients. Our inquiries brought the explanation that the educated young women would not accept training for nursing. They had an apprehension that the social circle in which they moved would regard them with suspicion. This brings us to the consideration of caste which is responsible for this lamentable condition.

In a little book in my library, formerly used in schools for teaching ancient history, I found the following paragraph: "The station in life of every man (in ancient Egypt) was fixed by an institution named caste. By the system of caste each individual, instead of being able to make his own place and fortune in the world, had his lot marked out by his birth. He had to be what his father was. Of these castes, or ranks, there were three broad divisions: The priests, the soldiers and the lower orders."

An Abe Lincoln could never grow out of a civilization like that. A Florence Nightingale could never grow out of South America under its present system of caste. In what direction must we look for the remedy? To my mind the answer is easy. Educate the boys and girls of the poor men and widows. That will put them on a parity with the sons and daughters of the wealthy classes who send their boys and girls to the private schools and to Europe for education. There is no other way to equalize opportunities in the struggle for achievement. Our boys and girls can be relied upon to do the rest. The castes will melt before them like a frost in June.

I have no patience with the plutocrat or miser who growls about his tax for the public schools.

The hospitals in South America have some attractive features. Their construction follows the general plan of Spanish architecture in the tropics in being built around open spaces, in squares or rectangles, that supply light and ventilation and flower gardens. These courts, called patios, often have small, ornamental, tropical trees for shade. Convalescents may be seen frequently sitting under these trees on benches provided for this purpose where they chat or smoke. The buildings are one or two stories in height, mostly one, and their doors open onto these courts. This provides free and ready access to open air, sunlight and shade, flowers and birds; yet are shut off from the streets and have the privacy of a home. Verandas are built all around each story, overlooking the patio where people can walk or sit under shelter and from which doors open into the wards and private rooms. From the acreage usually covered, one would infer that land is cheap and abundant. Operating rooms are built to face the south for the same reason that ours face the north. The light is more steady and free from glare of the sun. Shadows, at noon, point south in South America, whereas they point north with us. One strange feature observed in the hospitals is the absence of screens against flies and mosquitos which swarm in millions in tropical climates. Besides being a reeking nuisance, these pests are well known disseminators of disease. Nobody knows these facts better than those highly educated medical men; but for some unaccountable reason they have been unable to impress them upon the Latin public. Undoubtedly the influx of foreign immigration, vouchsafed by the extermination of malaria and "yellow jack" will soon correct this abomination.

I am unwilling to conclude these remarks without reference to one of the strangest and most interesting observations in South America. It is the "snake farm" in the Province of Sao Paulo, Brazil. It is one of the great therapeutic resources of the province which produces 80 per cent of the coffee of Brazil; and when we remember that Brazil produces 72 per cent of the world's coffee and that the U. S. A. takes 75 per cent of it, we can appreciate the importance of its health and activities. There are many poisonous reptiles in Brazil and the agricultural population is continuously exposed to their bites. They have six varieties of rattlesnakes. These facts led the government to get behind its medical profession in an extraordinary effort at protection. On the outskirts of the city of Sao Paulo, capitol of the province of that name, they built a laboratory to manufacture a serum to neutralize the venom of the snakes. It is operated on the es-

established principles of antitoxin for diphtheria. It has been a great success. They have reduced the mortality from 75 per cent to 3 per cent. It would be too tedious and tiresome to you for me to go into the detailed methods employed in this unique factory. Suffice it to say that, adjacent to the big, commodious laboratory building and stables for the horses, whose blood is used, there are two concrete enclosures in which hundreds of snakes are living and creeping about. They cause little creepy sensations to chase each other up and down one's spine. Planted here and there in these enclosures are hollow, concrete shelters from the sun, like shocks of hay, with little arched doors, flush with the floor, for entrance and exit of these ugly, repulsive creatures that await their doom. In one enclosure are the non-poisonous snakes and the people are taught the distinctive features that characterize the harmless from the deadly reptiles. The former have an oval shaped head; the latter a triangular. They will not eat in captivity; but the natives make daily shipments to the laboratory from all parts of the country so that a supply of fresh material is always on hand. An ampule of serum is exchanged for a snake and this dose injected immediately after the bite neutralizes the venom and saves the patient's life.

By the use of sticks with hooks at ends the employes at the laboratory rake and lift the creatures about like toys. Of course they wear boots and gloves that protect. I saw a man take a big rattler in his hands, grip him just behind his head till his mouth gaped open, then press his venom pocket till several drops of the poison, which looked like glycerin, ran out into a little saucer. He added a little sterile water to this venom and put it in a hypodermic syringe. Another man brought in a pigeon and plucked a few feathers from under its wing to expose a vein. Into this vein the needle was inserted, the venom injected and in two minutes by my watch the bird was dead.

DIABETIC GANGRENE OF THE NOSE

EVAN S. CONNELL, M.D.

KANSAS CITY, MO.

I have been unable to find in a review of the literature any report of gangrene of the nose in a diabetic subject. I, therefore, report the following case believing it to be of interest.

Mr. F. W., 35 years of age, had suffered from diabetes for the past three years. He had grown slowly worse until at the present illness he was extremely emaciated. In 1915 he had a nasal operation which he stated was a submucous resection of the septum, and an ethmoid operation.

During the early part of December, 1922, he had an attack of influenza. December 20th I was called

in consultation and found an acute purulent bilateral ethmoiditis. An acetone breath odor was distinctly noticeable. A few days later the infection extended into the right maxillary antrum and he developed an erythema and induration of the skin of the dorsum of the nose and upper lid of right eye. Erysipelas was feared, but the condition subsided promptly under magnesium sulphate compresses. The patient complained of numbness over the right side of nose and antrum.

The ethmoid infection gradually improved under argyrol tampons to the middle meatus. January 2 an ulcer appeared on the right side of the cartilaginous septum. The next day this ulcer was larger, greenish black in color, with a very foul discharge. These changes increased until the ulcer perforated the septum, cartilage and membrane sloughing away in small masses. The perpendicular plate of the ethmoid and vomer began to slough away and the hard palate became perforated, establishing a communication between mouth and right maxillary antrum. The blood Wassermann was negative.

The patient went to the University of Kansas Medical Department to obtain the insulin treatment and I was informed that his blood sugar was greatly reduced and that his urine became sugar free under this treatment.

He reported at my office following his discharge from the hospital. The sloughing had ceased and apparently the necrotic areas had healed.

Gangrene as a complication of diabetes in elderly subjects is familiar to all. It is unusual in young people and diabetic gangrene of the intranasal structures I did not find reported.

607 Commerce Building.

REHABILITATION OF THE PHYSICALLY HANDICAPPED.—R. M. Little, Albany, N. Y. (*Journal A. M. A.*, July 12, 1924), emphasizes the fact that competent medical and surgical service is the first step in rehabilitation. Unless this type of service has been rendered, frequently all other efforts come to naught. As first things should always be put first, the rehabilitation service, as it becomes experienced, will more and more emphasize the medical and surgical phase of the problem. A few illustrations are cited to show the lack of scientific skill and intelligence in treating patients. Many surgeons perform successful operations so far as a cure is concerned, but fail to think of the functional use of members of the body. Their patients may make a good recovery. The operations may have been brilliant, but with resultant useless members; stiff pendant fingers, hands and feet that are of no use, and the existence of which prevent the use of artificial appliances. A considerable part of the rehabilitation service consists in reviewing and correcting bad medical and surgical work. The rehabilitation service calls attention to the need of an increasing number of well-trained and equipped physicians and surgeons, and it will emphasize the importance of the work they do by increasing the number of their clients, making known their fine ability, and ever seeking their advice and assistance on the medical and surgical phase of the work.

THE EXCRETION OF PHOSPHORIC ACID DURING ANESTHESIA.—Data obtained by Wesley Bourne and Raymond L. Stehle, Montreal (*Journal A. M. A.*, July 12, 1924), on human subjects are in harmony with the view that the acid responsible for the acidosis of anesthesia is phosphoric acid.

THE JOURNAL

OF THE

Missouri State Medical Association

AUGUST, 1924.

EDITORIALS

ST. LOUIS CARES FOR THE MENTALLY SICK

With the opening of the training school for the feeble-minded at St. Louis the city enters upon a new era in the care and treatment of the mentally ill. For many months the Director of Public Welfare, Mr. Nelson Cunliff, and other city officials have held conference and discussed plans for modernizing the city's institutions for the care of those unfortunate citizens whose mental capacity is so limited as to render them charges upon the community. In former years the City Sanitarium was the only place where these poor people could be housed and the overcrowded condition of that institution coupled with the very meager provisions for medical care and treatment as well as for the employment of sufficient attendants to keep the hospital in good condition, left little room for improvement in the proper care of the inmates. Out of the eighty-seven million dollar bond issue there have been appropriated funds which have been used by the department of public welfare in the purchase of a large tract of ground and the erection of buildings for the exclusive care and treatment of the mentally sick who are not actually insane. In addition to this separation of the insane and the feeble-minded the City Sanitarium is to be enlarged and the number of inmates to be kept within its capacity.

The new buildings for the training school have been completed and on June 16 they were dedicated and taken over by the city. At the exercises there were present Dr. Walter E. Fernald, of Waverly, Massachusetts, and Dr. George L. Wallace, of Wrentham, Massachusetts, who praised the accomplishment of providing so satisfactorily for the care of the mentally defective. Dr. Fernald and Dr. Wallace are without question the best informed men in the country in this division of medical science and their advice together with the co-operation of Dr. George M. Kline, of Boston, Director of the Massachusetts Commission on Mental Diseases, and Dr. M. A. Bliss, of St. Louis, guided Director of Public Welfare Cunliff and the city officials in this great development. The four buildings at the training school have been named after these gentlemen

as a memorial to them. The training school will be in fact what its name indicates, that is, it will be a school where these young mentally defective people can be educated not only in elementary English, in which the school board will co-operate, but in occupational work.

At the City Sanitarium ten interns have been employed where hitherto there were no interns. Bacteriological, pathological and X-ray laboratories and hydrotherapeutic apparatus have been installed and ten supervisors will assist the teachers in occupational therapy, confining their work to instruction in industrial work.

CALIFORNIA AND THE DIPLOMA MILL

California authorities have begun a clean-up in medical licensure and according to news dispatches several persons involved in the diploma mill scandal have been indicted. Among these are Dr. Waldo Briggs, St. Louis; Dr. Robert Adcox, St. Louis; Dr. R. A. Voigt, Kansas City; and Dr. D. R. Alexander, Kansas City. In the process the California authorities seem to have found that many persons had been licensed in that state who presented diplomas from the three class C schools in Missouri, discredited by the Missouri State Board of Health last November. This led the California board to issue a sweeping order excluding graduates of all medical schools in Missouri from applying for a license in California.

This order was, of course, a great injustice to the three medical schools in Missouri which rank with the highest grade medical teaching institutions in this country, the Washington University Medical School, St. Louis University Medical School and the medical school of the State University. The order brought a very prompt protest from the Missouri State Board of Health and Dr. Emmett P. North, president of the board, wired the California board as follows: "I feel that the reported recent action of your board in disbaring graduates of all schools in Missouri must arise from misunderstanding. I would like to appear before your board in this matter, and if impossible to meet the entire board, to meet you as president, and the secretary together, for conference on this and other matters. Will bring Dr. F. C. Waite, of Cleveland, with me. Please advise convenient place and day, before August 1, when we could meet you, preferably about July 24 or 25."

To this the California board replied as follows: "California will accept for written examination graduates of Washington University Medical School, Missouri University Medical School and St. Louis University Medical

School. The board will give no recognition to the St. Louis College of Physicians and Surgeons, the Kansas City College of Physicians and Surgeons or the Kansas City College of Medicine and Surgery. I shall formally notify all of these institutions in writing of the decision. C. B. Pinkham, Secretary."

It is to be noted that the California board made no reply in their telegram to Dr. North's request for a conference. The California board in a later telegram to Dr. North suggested that the conference be postponed until next October but Dr. North wired that the exigency of the occasion required immediate attention and repeated his request for an early conference, preferably the latter part of July. To this request there has been no definite response at this writing. We understand that our board will insist upon such conference and that Dr. North and Dr. F. C. Waite, of Cleveland, who investigated the status of Missouri's board in relation to the diploma mill, will go to California and confer and co-operate with the medical examining board of that state in cleaning up Missouri and California and in devising methods of preventing a repetition of the scandalous traffic in medical diplomas. Dr. North's prompt action and the quick realization by the California board of the injustice of its drastic order prevented what might have developed into a very serious situation.

In a later dispatch the California board rescinded its drastic order as affecting the class A schools in Missouri but reiterated its refusal to recognize the three class C schools in this state.

There should be no difficulty in arriving at harmonious relations between Missouri and California except the question of statutory requirements and where these are deficient they should be promptly corrected.

Commenting on the situation, the *St. Louis Star*, which is very vigorously following up the diploma mill inquiry, says:

"Dr. Emmett P. North, president of the Missouri State Board, should be congratulated and commended for his prompt decision to go to California to confer. Missouri has nothing to hide and no one to protect. The state does not want quacks here, and if there should be any we do not want to shove them on to some other community. Our purpose should be to scotch them at home before they can get away.

"There are weak spots in Missouri's laws regulating license to practice. Experiences of other states will go a long way toward pointing out where those weaknesses are. California is anxious to help in locating them. We should be just as fair to California by helping her get rid of physicians holding spurious licenses."

The weak spots in the Missouri law can

readily be corrected if the *Star* and other newspapers will co-operate with the Missouri State Medical Association and its component societies at the next session of the legislature. Laws governing the practice of medicine are not made to protect the reputable physician. He needs no protection. Laws are made to protect the people from crooks and quacks in the profession and prevent them from selling diplomas to other crooks. No state need be imposed upon by any crooked medical school in the country for these are well known to the reputable profession, provided the laws are rigid enough to exclude so-called graduates of such schools. Forty-nine states now refuse to recognize the diplomas of the St. Louis College of Physicians and Surgeons, forty-six refuse to recognize the diplomas of the Kansas City College of Medicine and Surgery and forty-eight refuse to recognize the diplomas of the Kansas City University of Physicians and Surgeons. When Connecticut and Arkansas ban these three schools and other states continue keeping their doors locked against them it would seem that they must perforce go out of business. And that would be a bright day for the reputable people of this state and a glorious day for the reputable medical profession in Missouri.

MEDICAL ETHICS VINDICATED

For twenty-four hundred years the written code of medical ethics has guided the reputable physician in his dealings with the people and with his colleagues. During all these years our code has been ridiculed, derided and censured from time to time not only by thoughtless laymen but also by some physicians—those whose concept of loyalty is deficient. Since Hippocrates penned the Oath of Allegiance three hundred years before the Christian Era medical ethics has withstood the buffeting of adverse opinions and now stands vindicated before the world as the right method of protecting the people and the profession from injury. This vindication comes not in the form of direct approval of our principles of medical ethics but in the more sincere form of imitation by other professions and by business men.

Unwritten codes have for years governed the conduct of reputable lawyers and newspaper men, but the vindication of medical ethics is found in the adoption of written codes in the business world as well as in the professions. At the International Congress of Rotary held in Toronto last June, the president of that organization, Mr. Guy Gundaker, said in his address: "Of the fifty-one codes

adopted since the start of Rotary's campaign for codes, twenty-seven of which are the codes of great national organizations, a careful estimate indicates that 200,000 business men, unassociated with Rotary, are now working under adequate codes which direct them in ethical conduct."

Among these business organizations we find the greatest of them all, the Chamber of Commerce of the United States, having a written code of ethics adopted last May. In this code we note such expressions as, "the foundation of business is confidence, which springs from integrity, fair dealing, efficient service and mutual benefit"; that "representation of goods and services should be truthfully made and scrupulously fulfilled"; that "unfair competition, embracing all acts characterized by bad faith, deception, fraud or oppression including commercial bribery, is wasteful, despicable and a public wrong"; that "business should render restrictive legislation unnecessary through so conducting itself as to deserve and inspire public confidence."

Any code of ethics must be based upon loyalty to the cause and loyalty based upon honesty. Not all persons, however, are endowed with a full concept of their obligations to their fellowmen, for selfishness is a universal trait and leads to fraud and deceit, hence, the axiom in the business world, "let the buyer beware." That axiom must now be discarded and in its place there is to be substituted written codes of conduct to guide the business man in his dealings with the public and with other business men, this new code to be based upon another axiom, hitherto more honored in the breach than the acceptance, "honesty is the best policy."

The adoption of written codes of ethics by business men is in the opinion of the *St. Louis Globe-Democrat* "one of the greatest movements that has ever been undertaken for the betterment of mankind."

Commenting further this newspaper says: "It is a movement for the promotion of honesty in business, and its chief significance lies in the fact that it has been inaugurated and is being carried forward with astonishing results by business men who are leaders in business, men who are not visionary idealists, but who for the greater part have achieved unusual success in the practical conduct of business. The effect of this is to put sharp practices that have so long been excused, with the plea that "its business," under the ban of condemnation by one's business associates. It establishes standards by which proper or improper conduct in business can be measured. Many men in business do wrong things without being conscious that they are wrong, and many do things that they know

are wrong, but that are established customs. Again, many do things against their own conscience because their competitors do them, and they think it necessary to resort to the same practices to maintain their trade or profit. 'Competition between men of different standards of business methods,' says Mr. Gundaker, 'is unfair competition. Standardization of right conduct will destroy unfair competition, and written codes of rules of conduct provide the only way for such standardization.' When business through its great organizations establishes definite principles of right conduct in business, and makes it known that these principles are backed, and violations will be frowned upon, by the dominating elements in business, a very powerful influence will be set up for their general observance. The great majority of men do not care to run contrary to the standards set up by their kind."

ENTERS THE "NEUROCALOMETER"

Probably most of those who have made a study of quackery and pseudomedicine have reached the conclusion that charlatanry of the mechanico-electrical type had reached its apotheosis in Abrams' fantastic pieces of apparatus. But chiropractic has gone the E. R. A. one better, and presents to a palpitating world the "Neurocalometer"—a measurer of nerve heat! This marvel, as is fitting, emanates from the Fountain Head of Chiropractic—the Palmer School of Chiropractic, Davenport, Iowa. Chiropractors are being circularized, their interest whetted, and they are urged to send in their orders early. The description given of the device is rather hazy, but the Neurocalometer appears to be essentially a thermopile or possibly two thermopiles, one in each arm of the instrument. The two arms are, apparently, separated sufficiently to allow them to "straddle" the vertebral column. From the thermopile run wires which carry the weak electric current (always generated when a thermopile is subjected to differences in temperature) to a galvanometer. The latter, presumably, can be brought around so that the victim can see the pointer move over the dial. When the pointer stands at zero, it indicates a perfectly normal spinal column; when it swings to the right or left it is registering a "subluxation"! The economic possibilities of this device are surely unlimited. The thermopile part of the instrument is said to be made at the Palmer School of Chiropractic. Like Abrams' "Oscilloclast," the Neurocalometer cannot be purchased; it can only be leased. Like the Oscilloclast, too, it is sealed and the lessee signs a contract not to break or tamper

with the seals. The "established price" of a lease of the Neurocalometer is \$2,200—\$1,000 cash at the time the contract is made and \$10 a month for ten years. This makes Abrams' disciples look like pikers. As a special "introductory price," operative until July 1, 1924, these instruments will be leased for \$1,200, in which \$600 cash must be paid at the time of signing the contract and \$5 a month paid for a period of ten years. After July 1, 1924, it will be \$750 cash and \$6.25 a month for ten years. There are numerous restrictions imposed on those who would lease this device, of which the least onerous is that requiring the lessee to charge his patient \$10 for a Neurocalometer reading. It is necessary for the would-be lessee to declare what degrees he holds, from what school or schools he graduated, and whether his degrees and graduation were from "residential" or "correspondence" courses. No other college of chiropractic will be able to lease a Neurocalometer for class instruction, and, as a further means of boosting attendance at the Palmer "school," those who are considering taking up chiropractic as a trade are told that if they matriculate or enroll in any school except the Palmer School on or after September 1, 1924, they will not be eligible to lease a Neurocalometer. The Palmer School of Chiropractic says that while the Neurocalometer "will not give electronic reactions of syphilis from the blood of a chicken," it "proves hot boxes." Altogether the Neurocalometer should come up to the fondest expectations of its sponsors. It will be a great business getter for the Palmer School of Chiropractic; it will bring in a handsome income to that institution and to the chiropractors that rent the device. And the ever gullible public will pay the bill.—*Jour. A. M. A.*, July 12, 1924.

NEWS NOTES

DR. EDGAR F. SCHMITZ, of St. Louis, has removed his offices to 501-3 Metropolitan Building.

DR. S. T. VANDOVER, of St. Louis, has been appointed Chief Surgeon of the Terminal Railroad Association to succeed Dr. W. A. McCandless, who died June 25th.

WE regret that the name of Dr. A. L. Meredith, delegate from Cooper County at the Springfield meeting of our Association, was omitted from the published list of delegates. His name has been added to the official minutes.

DR. FRANK R. FRY, St. Louis, was the guest of the Effingham County Medical Society (Illinois) at the meeting of the society held at Effingham, July 23. Dr. Fry addressed the members on "Familiar Things in Newer Psychiatry."

DR. MAX STARKLOFF, health commissioner of St. Louis, and Dr. Joseph C. Willett, city bacteriologist, are considering the introduction of an ordinance in the Board of Aldermen providing for compulsory vaccination of all dogs against rabies.

IT is reported that the Missouri Board of Osteopathy has refused to recognize the diplomas of the Kansas City University of Physicians and Surgeons and that the University threatens mandamus action to compel the Board to recognize the school.

THE license to practice medicine issued to Samuel L. Bailey, of Carthage, an osteopath, was revoked by the State Board of Health, April 19, on charges, which were sustained, of securing his admission to examination by false statements regarding his attendance at medical schools.

DR. W. T. MANNING, St. Louis, was sentenced to ten years in the penitentiary at Leavenworth, Kansas, and fined \$6,000 by Federal Judge Trieber following the conviction of Manning on illegal use of narcotics. This is Manning's third conviction on similar charges during the past four years.

GOVERNOR HYDE has released an appropriation of \$50,000 for the erection of a dormitory at the home for the neglected and delinquent children at Carrollton. With the erection of this building, which the State Board of Charities will superintend, the home will be able to care for many children now boarding in private homes because of the lack of room.

DR. JOHN M. FRANKENBURGER, of Kansas City, has been appointed superintendent of the Kansas City General Hospital to succeed Dr. W. L. Gist, who has resigned. Dr. Frankenburg graduated from the Kansas Medical College in 1893 and has been practicing in Kansas City since 1897. He was president of the Jackson County Medical Society in 1915.

THE Inter-State Post Graduate Assembly directed by the Tri-State Medical Association of Illinois, Wisconsin and Iowa, announces a five-day session of post-graduate work at Milwaukee, October 27-31. About seventy-five

physicians are listed in the preliminary program comprising well-known teachers of medicine in this country and Canada. Members of our Association in good standing are invited to attend the meeting.

A COMMITTEE of physicians under the direction of the Illinois State Medical Society is preparing a history of medical practice in the state of Illinois. The scope of the volume will range from the discovery of Illinois to modern times. The committee is anxious to have any Missouri physician who has knowledge of pioneer Illinois physicians send the information to them. Address Committee on Medical History, Illinois State Medical Society, 6244 N. Campbell Ave., Chicago, Ill.

DR. G. W. VINYARD, of Jackson, entered the fiftieth year of his practice recently and the occasion was made notable by the Southeast Missouri Medical Association electing him president for the second time at the recent meeting held at Charleston. This is an honor that has never been conferred on any other member of the Southeast Association. Dr. Vinyard has made for himself an enduring place in the hearts and affection of the people in Cape Girardeau and throughout the southeast section of the state.

PHYSICIANS of Pike County are endeavoring to have a county hospital established at Louisiana and secure the use of a trust fund created by the late Otis Smith and the late Susanna Barr, former residents of Louisiana. Otis Smith left a sum of \$100,000 with a trustee to administer it and Miss Barr left a fund of \$40,000, both to be used for the purpose of erecting and maintaining a hospital at Louisiana. Physicians of Pike County are planning to have the voters of the county approve a proposition to be submitted at the November election for the erection of a county hospital and the utilization of the trust fund for its maintenance.

DR. E. F. HOCTOR, of Nevada, has been appointed Superintendent of State Hospital No. 3, at Nevada, to succeed Dr. R. C. Robertson, who has been acting superintendent since the resignation of Dr. Campbell. Dr. Hoctor is a graduate of the Creighton University with the degrees of B. A. and A. M., and of the medical department of Creighton University. He has been assistant physician at State Hospital No. 3 since November, 1923. This is a promotion in line with the policy of the Eleemosynary Board to give properly qualified assistant physicians an opportunity to demon-

strate their capacity for filling the position of superintendent. Dr. Hoctor is a member of the Vernon County Medical Society.

THE FEDERAL NARCOTIC CONTROL BOARD states as "entirely erroneous" a recent assertion that "the growth of narcotic addiction in the United States and the world over is the most alarming symptom of the new century," and "our youth, both sexes, by the thousands are being hooked and brought into this living death." The Board further declares that these statements, as to the United States, cannot be backed up by facts or figures. The immediate occasion for this announcement on the part of the Federal Board was due to a request from the Committee on Printing of the Senate for an opinion as to the merits of a pamphlet entitled "The Peril of Narcotics," prepared by the International Narcotics Education Association, of which Richard P. Hobson, of Spanish-American War Fame, is President. Senator Capper of Kansas had introduced a resolution providing for the printing of 50,000,000 of these pamphlets. It would have cost the government about \$175,000 to do this. The measure did not pass.

DIRECTOR FRANK T. HINES of the United States Veterans Bureau has issued a pamphlet for the information and guidance of all veterans of the World War who may be entitled to the benefits of the World War Adjusted Compensation Act. Application should be made by the veteran or the dependent, to the Secretary of War if the veteran is serving in or his last service was with the military forces; or the Secretary of the Navy if he is serving in or his last service was with the naval forces. Such applications should be sent in care of the following offices dependent upon the branch of service in which the veteran is serving or last served:

For the Army, send application to: Adjusted Compensation Branch, The Adjutant General's Office, Washington, D. C.

For the Navy and Coast Guard, send application to: Adjusted Compensation Branch, Bureau of Navigation, Washington, D. C.

For the Marine Corps, send application to: Adjusted Compensation Branch, U. S. Marine Corps, Washington, D. C.

In no case should any application be sent to the United States Veterans' Bureau.

THE Hall of Health in the Arts and Industries Building of the Smithsonian Institution in Washington is well worth a visit by any sanitarian interested in health exhibits. With the recent installation of material from the

National Tuberculosis Association and the National Organization for Public Health Nursing, one entire side of the gallery contains exhibits from Council members, as those from the American Child Health Association and American Red Cross had already been deposited. Other exhibitors include the United States Public Health Service, the United States Women's Bureau, which has a model sanitary factory on display, the Life Extension Institute, the United States Army Medical Corps, and numerous other official and private contributors. The American Medical Association contemplates putting in material in the near future. Although much of the exhibit is still of a temporary nature, this will be replaced as soon as possible with exhibits in accordance with the scheme devised by Mr. Tobey, the secretary of the committee in charge, of which Surgeon General Cumming of the Public Health Service is chairman. The hall has been open to the public for over six months and much interest has been manifested by the many visitors. The committee would like to get in touch with additional sources of exhibit material which comes up to the high standards of the Smithsonian.

OBITUARY

OTTO OETTING, M.D.

It has pleased God in his wisdom to take from our midst Dr. Otto Oetting, of Concordia, who died June 23, 1924, in the Trinity Hospital in Kansas City, at an age of 47 years. Dr. Oetting was a native Missourian, born in this community. He graduated from the Medical Department of the University of Louisville in 1900 and has practiced his profession in Concordia over twenty years. Dr. Oetting was a member of the Lafayette County Medical Society and Missouri State Medical Association. Dr. Oetting was a conscientious, painstaking, ethical physician.

FERDINAND SHRYMAN, M.D.

JOHN B. MARTIN, M.D.

Dr. John B. Martin, Russellville, Mo., Missouri Medical College, 1875, died June 22 at the family home of stomach trouble and diseases incident to age, aged 89. He was a member of the Cole County Medical Society, Missouri State Medical and American Medical Association.

Dr. Martin was born in the same locality in which he died and had really practiced medicine since 1861, although his diploma was granted in 1875. He was not only a success-

ful physician but a leading business man in his community and continued his various activities up to a few days before his death.

W. A. CLARK.

THOMAS G. HUNT, M.D.

Dr. Thomas G. Hunt, of Salem, a graduate of the American Medical College, 1901, died at St. Louis, July 1, 1924, aged 55 years. Dr. Hunt was born at Lenox, Missouri, in 1869. In 1892 he was married to Miss Mary C. Cannon, also of Lenox, and upon his graduation from medical college he returned to Lenox and began the practice of his profession. A few years later he moved to Salem where he continued in practice until ill health forced him to retire and he removed to St. Louis for treatment. He had been a member of Dent County Medical Society for over twenty years.

Dr. Hunt is survived by his wife, two daughters and a son. Funeral services were conducted at St. Louis and the remains were sent to Salem for burial.

CHRISTOPHER C. MORRIS, M.D.

Dr. Christopher C. Morris, of St. Louis, a graduate of Missouri University Medical School, 1884, died in a sanitarium at Battle Creek, Michigan, June 9, 1924, following a heart attack. Dr. Morris was 66 years old.

Dr. Morris was chief surgeon and superintendent of the St. Louis Baptist Hospital since its organization by him thirty-three years ago. His preliminary education was obtained in the public schools of Putnam County, Indiana, where he was born, and Licking Academy at Licking, Missouri. After his graduation from medical school he began practice in Northeast Missouri. He removed to St. Louis in 1890 and shortly afterward took a post-graduate course at New York Polyclinic. He was a member of the St. Louis Medical Society, American Electro-Therapeutic Association, the American Hospital Association and a Fellow of the American Medical Association.

WILLIAM NIFONG, M.D.

Dr. William Nifong, of Fredericktown, a graduate of the St. Louis Medical College (now Washington University Medical School), 1866, died at his home July 1, 1924, aged 82 years.

Dr. Nifong was one of the oldest practitioners of medicine in Missouri and one of the most prominent and successful physicians in the southeast section of the state. He was the grandson of George Nifong, a pioneer from North Carolina who settled in the village of

St. Louis in 1800 but shortly afterwards moved to Ste. Genevieve, which was then a larger village than St. Louis. Later he moved to St. Michael, now Fredericktown.

Dr. Nifong served in the Confederate Army after which he studied medicine in St. Louis and began practice at Fredericktown where he remained during his entire professional career. In 1866 he was married to Miss Eliza Anthony, daughter of another pioneer from Virginia. Dr. Nifong took an active interest in all civic movements for the improvement of the health and welfare of the people in his community and for many years was a very active member of our Association. He resigned from medical society activities in 1916 on account of advancing years. He was a charter member of the Southeast Missouri Medical Association which was organized in 1874.

Two sons survive him, Dr. Frank G. Nifong, of Columbia, and Dr. Sylvester C. Nifong, a dentist at St. Louis.

PRAISE OF MANAGEMENT OF COLONY FOR FEEBLEMINDED AT MARSHALL

From the *Daily Democrat-News* of Marshall we have clipped the following interview with Dr. Walter E. Fernald, of Waverly, Massachusetts, who inspected the Colony June 19:

The highest praise was given to Dr. E. E. Brunner, superintendent of the colony, and the institution yesterday by Dr. Walter E. Fernald, internationally expert on feeble-mindedness and for thirty-five years head of the state school for feeble-minded at Waverly, Mass., who was here for a visit.

In an interview Doctor Fernald granted to a reporter for the *Democrat-News* he said:

"This is one of the cleanest and best kept institutions in which I have visited for a long time and I visit many of them. It is neat, well ventilated and spotless. I like the spirit of the place. The patients are contented and happy and the officers and teachers have the proper attitude toward their charges.

"There is a strong educational spirit running through the institution and education is the foundation stone of operation. The buildings here are well constructed for ventilation and cleanliness. They are sunshiny, homey looking and Doctor Brunner has them spick and span."

In order that Doctor Brunner might not miss any credit due to him the interviewer spoke up, saying:

"I would like for you to understand, Doctor Fernald, that this place isn't just 'dolloed up' for the visit of you doctors."

"I know that all right," was the reply, "for I know that you can't 'doll up' an institution. Getting it clean and ship shape is a matter of months and months of good hard work. This place is a great credit to the state of Missouri and I was surprised it was so good."

"What do you think of the medical treatment given here?" this great authority was asked.

"It is up-to-date and most modern. It compares favorably with the best we have anywhere."

Dr. George Wallace, head of the state school at Wrentham, Mass., another of the distinguished visitors, also highly praised Doctor Brunner and the colony.

"Out here in Missouri you need for all your eleemosynary institutions to be taken out of politics," Doctor Wallace declared when questioned about that. "Back in Massachusetts change in governors or change in political administrations doesn't disturb the eleemosynary institutions whatever.

"Consequently, these of the state's unfortunates get better care. Physicians and officers of the institutions take far greater interest in what they are doing and frequently make it their life work, as have Doctor Fernald and I. They know that as long as they do their work satisfactorily they will be retained and that their positions are not subject to political machinations."

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Charlton County Medical Society, December 13, 1923.

Camden County Medical Society, January 17, 1924.

Madison County Medical Society, January 19, 1924.

Cooper County Medical Society, January 19, 1924.

Platte County Medical Society, January 22, 1924.

Morgan County Medical Society, January 23, 1924.

Cape Girardeau County Medical Society, January 24, 1924.

Clark County Medical Society, February 11, 1924.

Dent County Medical Society, March 5, 1924.

Adair County Medical Society, March 5, 1924.

Howell County Medical Society, March 11, 1924.

Taney County Medical Society, March 20, 1924.

Webster County Medical Society, March 20, 1924.

Vernon County Medical Society, March 22, 1924.

Schuyler County Medical Society, March 24, 1924.

Atchison County Medical Society, March 25, 1924.

Ray County Medical Society, April 2, 1924.

Christian County Medical Society, May 1, 1924.

Pulaski County Medical Society, May 10, 1924.

PROCEEDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SOCIETY

One Hundred and Fifth Meeting, May 12, 1924

1. REPORT OF CASES.

A. PULMONARY ANTHRAX WITH REPORT OF A CASE.—By DR. HOWARD H. BELL.

Primary pulmonary anthrax is an exceedingly rare condition in this country. Interest in this very old subject has been revived by recent studies especially concerning variation in resistance of different tissue to B. anthrax.

Besredka and later Balteano have shown that the skin of rabbits and guinea pigs is the only tissue especially susceptible to anthrax invasion. Many fatal doses, as determined by cutaneous injection, can be injected intravenously into serous cavities or visceral organs without causing disease, provided the skin be not contaminated. Immunity does not result from such injections. Immunity can be pro-

duced by injecting into the skin and follows a mild attack of the disease. Holman and Fernish fed anthrax spores to guinea pigs and in conclusion oppose the idea of primary intestinal anthrax.

Brocq, Rousseau and Urbain injected culture material into the trachea of rabbits and guinea pigs without producing pulmonary infection.

Case here reported.—The patient was a colored female, aged 45 years, who had been suffering from a cardiorenal condition for many years and on account of which she entered the hospital. She was in the hospital 57 days preceding her death. During this period there was slight fever, varying from 99° to 102°, with daily remissions, falling to normal and subnormal in the morning.

Blood culture 21 days before death showed a large gram positive bacillus (doubtless *B. anthracis*) which was not identified because anthrax was not suspected at that time.

Death followed cardiac failure.

The lower and middle lobes of the right lung show a progressive chronic pneumonia. The remainder of the lungs showed only chronic passive congestion.

Cultures from lungs showed *B. anthracis* in pure culture which was typical. Heart's blood culture was sterile.

The lesion was considered to be that of pulmonary anthrax of long standing.

B. GRANULOMA INGUINALE.—By DR. WARREN RAINEY and DR. W. L. BRADFORD.

Granuloma inguinale is a very rare condition in the United States. A great many cases are reported in India and in certain areas of tropical South America; in fact, it is so prevalent in these countries that hospitals have been set aside for the care and treatment of patients suffering from this disease.

Some five cases have been reported in St. Louis and in Philadelphia eleven cases were collected by the Philadelphia General Hospital and reported by Randall, Small and Belk in 1921. It was stated in this communication that there had probably never been a time when there was not at least one case of granuloma inguinale under treatment in this hospital although diagnosed under various other names.

TWO CASE REPORTS.

The first patient was a white female, aged 44, who had never been out of the city. Married and divorced, a commercial prostitute. The patient had noticed an ulcerated area on the right side of the vagina four years previously. The ulcerated area continued to grow until the entire vagina and perineum were involved. Previous to her entry into the St. Louis City Hospital on the surgical service of Dr. Rainey, she had had 104 deep mercury injections and 21 salvarsan injections with no improvement. The reason for her entering the hospital was that she had developed a stricture of the rectum which was causing her a great deal of pain and difficulty in defecation. Granuloma inguinale was first suggested as a possible diagnosis by Dr. Long, Junior House Officer, and the diagnosis was subsequently confirmed by the bacteriological and therapeutic cure carried out by Dr. W. L. Bradford, who jointly reports the case with Dr. Rainey. Dr. Richard Weiss after a skin examination also suggested the case as one of granuloma inguinale tropicus. The rectum was dilated, the stricture having been caused by a congealing and partial healing together of an ulcerated line at the mucocutaneous margin. Antimony and potassium tartrate in sterile solution were given daily in doses of $\frac{1}{4}$ grain, gradually increasing to

1 grain daily, for about 28 days. The entire ulcerated area had healed in this time and there has been no further recurrence. The Wassermann test was negative and the Reichmann-Donovan organism was found from the direct smears of the ulcerated area.

The second patient was a negro woman of about 45 years of age who had a lesion very similar to the one just reported; in fact, there had evidently been a decided involvement of the vagina because the entire vagina with the labia had been removed surgically. The patient stated she had been under intensive anti-luetic treatment and had received applications of radium and X-ray treatment but the lesion had not shown any improvement at any time. This patient reported to the Out-patient Surgical Department of the Washington University Dispensary, service of Dr. Rainey, for relief of painful defecation. She was entered in Barnes Hospital where intensive study was made of the perineal lesion, which was about the size of the two palms, showing a red, granulated area covered by a thin, grayish discharge with a very foul odor. No specific organism was recovered from direct smears and animal inoculation from macerated sections of the granulations failed to reproduce lesions in rabbits or guinea pigs. In spite of the negative findings, the patient was given daily injections of tartar emetic, 1 grain, and by the end of the month was able to leave the hospital apparently cured; the entire area was covered by a thin, pink skin which was dry and had no evidence of the previous granulations. There has been no further recurrence of the lesion to date.

DISCUSSION

DR. ERNEST SACHS: Did you find any organisms? Do organisms occur anywhere else in the body?

DR. WARREN R. RAINEY: There are probably many more cases of granuloma inguinale in the United States which have been masquerading under the diagnosis of syphilis, chancroidal lesions and even carcinoma. Any open granulating surface about the inguinal region when accompanied by enlarged, tender lymph nodes and edema or elephantiasis of the labia majora should suggest the possibility of granuloma and search should be made for the Donovan inclusion bodies. Even when failing to find the organism, if syphilis has been ruled out by the Wassermann test or therapeutic measures, one is justified in instituting intravenous tartaric emetic treatment.

2. THE TREATMENT OF THE SPHENOPALATINE GANGLION IN HAY FEVER. PRELIMINARY REPORT.—By DR. R. J. PAYNE.

It has been observed for some years in the Washington University clinic that many cases of hyperesthetic rhinitis were relieved by cocaineization of the nasal ganglion. This observation led me to try injection of the ganglion for the relief of hay fever.

In 1922 two such cases were injected, with complete relief. Following out this line of experimentation, 43 cases were treated in this manner in the season of 1923 with most satisfactory results.

We are now treating all true hay fever cases by ganglion block. The ganglion is injected with $\frac{1}{2}$ c.c. of 95 per cent alcohol with 5 per cent phenol.

DISCUSSION

DR. ERNEST SACHS: I have tried for years to inject branches of the fifth nerve and from my experience you can only hit the fifth nerve in about thirty per cent of the cases the first time. How frequently do you feel that you actually get the sphenopalatine ganglion the first time?

DR. PAYNE: The position of the ganglion is well defined by the landmarks on the lateral nasal wall. If the needle is inserted below the attachment of the posterior tip of the middle turbinate, passed through the bone and continued upward and outward, it will pass into or in very close proximity to the ganglion. The alcohol if injected at this point will in most cases infiltrate the ganglion even though the tip is not actually within the ganglion substance. The injection has been repeated in quite a few cases. The injection is not so very difficult.

DR. SACHS: How do you know?

DR. PAYNE: There are certain signs which we interpret as indications that the ganglion has been injected; that is, pain referred to ear temporal, maxillary or orbital region, teeth and side of the nose, anesthesia of the palate. Dr. Sluder thinks the position or location of pain following injection indicated a corresponding point of injection into the ganglion; that is, should the alcohol reach the upper portion of the ganglion the pain would be manifest in the temporal region, while in a center hit or lower margin injection the pain will be located in the ear or teeth.

DR. KINSELLA: What is the action of $\frac{1}{2}$ c.c. of 5 per cent phenol when put in the tissues? It seems like a pretty large amount.

DR. PAYNE: We use $\frac{1}{2}$ c.c. of 95 per cent alcohol with 5 per cent phenol. The phenol for anesthesia and the alcohol for destruction. Dr. Sachs has had much experience in injecting alcohol into nerves and is familiar with the degenerative and regenerative changes in the nerve structures. I think he can give us more information about this.

3. STUDY OF SUGAR METABOLISM IN EXPERIMENTAL PITUITARY LESIONS.—By DR. ERNEST SACHS and DR. MAXWELL E. MACDONALD.

A presentation of the results of 35 operative interventions on the hypophysis and hypothalamus of the dog by the temporal approach of Paulesco as modified by Cushing.

Studies made:

I. *Normal standards.* (a) Fasting blood sugar. (b) Blood sugar tolerance curves. (c) Urinary intake and output.

II. *Post-operative.* Same factors plus clinical observations.

III. *Post-mortem.* Histological studies of serial sections of hypothalamus and hypophysis.

Lantern slides presented to show type of normal blood sugar curve with height at $\frac{1}{2}$ hour and curve after operative intervention with height of curve at 1 hour.

CONCLUSIONS

1. Complete removal of pituitary if hypothalamus not injured does not cause death of animal.

2. Deaths that occurred always associated with hypothalamic injury.

3. Confirms the work of others that polyuria is apparently due to hypothalamic injury.

4. Blood sugar in fasting animal is slightly lower after pituitary or hypothalamic operation, but this may be within normal limits of variation.

5. Transient glycosuria from 1-2 days occurred after hypothalamic puncture and during this time the blood sugar was higher than normal.

6. In giving .47 gms. of glucose per kgm. body weight before operation the height of the blood sugar curve was at the end $\frac{1}{2}$ hour. After all operations, with exception of partial anterior lobe removals and controls, the height was at the end of 1 hour.

DISCUSSION

DR. SIDNEY I. SCHWAB: Is there any individual variation in dogs according to the type of dog? A very pertinent observation in a series of blood sugar determinations made on human beings in the hospital was that the type of individual showed a very marked variation. Is that in any way a point to be considered in your material studies. In the first place, were your dogs of the same general breed and family. Of course frightened dogs might show considerable variation. It would be a point to answer.

DR. MAXWELL MACDONALD: I perhaps did not make myself clear. I stated that the pituitary cases are those cases which have been in the hospital for tumors and they showed the same type of findings as the experiments; and as for the dogs, we have them so well trained that they offer no resistance to the procedure of taking blood. It is surprising how well-trained dogs will get and how easy it is to work with them.

4. DIVERTICULITIS OF THE LARGE INTESTINE.—By DR. JOSEPH W. LARIMORE.

Diverticulitis of the sigmoid was reported in 1899 by Graser but not until eight years later was the condition demonstrated during the life of a patient. Between 1907 and 1915 there appeared several articles co-relating clinical to autopsy and to operative findings. In 1915 Carman reported the X-ray study of three cases of diverticulitis with demonstration of the presence of diverticulosis. In 1917 W. J. Mayo reported forty-two cases of resection of portions of the large intestine for diverticulitis. Telling, as quoted by Gant, showed an incidence for diverticula of eighty-three in 13,068 autopsies compiled from several sources. This is 63/100 per cent and included almost as many congenital as false diverticula. Spriggs records an incidence of six cases in one thousand examinations but thinks this is too low.

Diverticulosis of the colon may exist asymptotically, the discovery of the condition being accidental at the time of gastro-intestinal X-ray studies. At the Washington University X-ray Laboratory diverticulosis of the large intestine has been demonstrated fifty-five times in 4,408 examinations, an incidence of 1.24 per cent. In the last portion of the series it occurred twenty-two times in 1,333 examinations, or 1.65 per cent. This increase in frequency is probably due to our being sensitized to it and also to our greatly increased use of the barium enema. These figures include all cases in which one or more diverticula were demonstrated by the X-ray examination. Twenty-one cases showed only isolated diverticula, usually fewer than four. Thirty-four cases showed multiple diverticula. Six cases from my private laboratory are included in the tables presented.

The sigmoid was the principally involved portion. The descending colon alone showed multiple diverticula in five cases. In one case all portions except the rectum were involved; in two cases all except the cecum and the rectum were involved. The proximal bowel only was involved in but two cases; and the cecum in but one of these. There was usually X-ray evidence of spasticity in the sigmoid colon and in one-half of the cases delayed motility of the colon was demonstrated. The condition was not met in any colored patient although a large percentage of our subjects have been negroes. Subjects showing diverticulosis were chiefly of the sthenic and hypersthenic type of bodily habitus.

Among the symptoms of diverticulitis pain is the most prominent. This is of two varieties; localized tenderness in the left lower quadrant coinciding with the site of local inflammation, and abdominal

cramping more or less localized, this latter often being the only pain subjectively noted by the patient. Constipation is a notable accompaniment of diverticulosis and of diverticulitis. While constipation with an actual colonic motor delay is usually present there may occur during the attacks the pseudo-diarrhea of spastic constipation, with frequent small actions associated with abdominal colic, the passage varying from a fecal stool to those with only mucus, which may show blood. During attacks of diverticulitis a mass may be and is often palpable in the left lower quadrant.

The X-ray demonstrates diverticulosis by filling and by visualization of the accessory pockets by ingested barium sulphate or bismuth salts. Under the conditions of the fed test it may be difficult to identify shadows of diverticula conclusively from those of barium fragments within the bowel lumen. The filling of diverticula may be characteristic inasmuch as fecal concretions contained in the pocket so influence the barium filling that the form of the barium shadow about the non-opaque fecolith is characteristic. A barium residuum filling the pockets after the bowel lumen has been emptied clearly demonstrates the condition. Opaque material may persist in the pockets over weeks, or longer. Demonstration of pockets accessory to the lumen of the bowel by the barium enema is conclusive.

Treatment of diverticulitis necessarily must be individualized as each case shows variability in the degree and type of complication. It may be suggested that local partial colectomy be done even when the diverticulosis involved the entire colon, since diverticulitis occurs with the greatest frequency in the rectosigmoid colon. For acute obstruction of the colon, acute peridiverticular abscess with or without perforation, chronic obstructing fibrosis about the diverticula bearing area and for malignant involvement, operation is necessary. Medical care of diverticulitis and diverticulosis of the colon includes primarily the care of the colonic motility or relative or actual constipation. Bismuth salts are used intermittently as in some manner influencing favorably the course of diverticulosis and preventing attacks of diverticulitis.

5. RADIOGRAPHIC LOCALIZATION OF LUNG ABSCESS WITH THE HIRTZ COMPASS.—By DR. L. R. SANTE and DR. E. P. LEHMAN.

The Hirtz compass, originally designed for the radiographic localization of metallic foreign bodies in the tissues, may be applied in the localization of lung abscess to guide the exploring needle on the operating table. The compass was demonstrated and the theory of application briefly described. Three cases, in which at operation the indicator needle of the Hirtz compass passed into the abscess at the first introduction, were reported. Minor modifications of the instrument and precautions to be observed in applying it to the surgery of lung abscess were discussed.

ASSOCIATION OF ASSISTANT PHYSICIANS

The Association of Assistant Physicians of Missouri held its second meeting at the Colony for Feeble-minded and Epileptic in Marshall, June 18th. At this meeting the Association entertained many members of neighboring county medical societies and presented a program seldom equalled by many larger societies. Dr. Walter E. Fernald, Superintendent of the State School at Waverly, Massachusetts, and Dr. George Wallace, Superintendent of the State School at Wrentham, Massachusetts, occupied the

afternoon program with addresses and discussions of the problems confronting the state and the medical profession in the care of the feeble-minded.

Dr. Fernald has devoted the past forty-one years to the treatment and training of the feeble-minded and insane and has served as Superintendent of the Waverly School continuously since 1886. He began his psychiatric career in Wisconsin in 1882. He became so disgusted with the politicians and their blind opposition to the progressive methods of the study, treatment and care of the state's insane and feeble-minded that he moved to a state in which the eleemosynary institutions are not a spoil for any political party or faction.

The wisdom of his act is proved by the result. Dr. Fernald is father to the most complete system of the care and training of the feeble-minded that has ever been offered to science. With the able assistance of Dr. George Wallace, who has worked with him for the past thirty years, the entire feeble-minded population of Massachusetts is benefited by modern methods of training which will relieve society of the enormous burden of caring for a great group of wholly non-productive citizens. Dr. Fernald's work extends into every community of his state and many mentally defective are trained to become wage earners and retain their place in society who would otherwise have to be placed in an institution and become a constant burden to the state.

It is this carefully planned progressive work and the assurance of uninterrupted service that has made Massachusetts the leading state in the matter of the care of its mental defectives.

The Program

MORNING MEETING

8:00 to 9:30 a. m.

Business Session—Regular order of business—Dr. David H. Young, President, presiding.

9:30 a. m. to 12:00 noon.

Meeting called to order—Dr. David H. Young, President.

Invocation—Rev. Elmer Love.

Address of Welcome—Mr. Frank H. Naylor, Mayor of Marshall.

Response—Col. W. P. Fulkerson, Pres. State Eleemosynary Board.

Girls' Chorus—Directed by Miss Helen Wickett, Director Dep't of Music.

The Binet-Simon Test—Technique—Mrs. K. A. Leal, Psychologist.

Boys' Chorus—Directed by Miss Helen Wickett.

Clinic Presenting:—

(A) Mongolian idiots,

(B) Cretins,

(C) Hydrocephalics,

(D) Microcephalics,

S. W. Weltmer, Assistant Physician.

Music by Colony Band—Directed by Miss Helen Wickett.

Benediction—Father J. J. McGowan of St. Peter's Church—Marshall.

Lunch—12:30 p. m.

Address—C. B. Goodwin, Pres. Marshall Chamber of Commerce.

AFTERNOON MEETING

1:30 p. m.

Address—Dr. Walter E. Fernald, Sup't State School, Waverly, Mass.

Address—Dr. George Wallace, Sup't State School, Wrentham, Mass.
 Tour of Institution.
 Camp Fire Girls' Drill.
 Boy Scout Drill—Mr. John Lynch, Physical Director.
 S. W. WELTMER, M.D.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society met in regular session at Jackson, May 12, with the following members present: Drs. Zimmermann, Schulz, W. K. Statler, D. I. L. Seabaugh, Hays and Seibert. Dr. E. R. Schoen was a visitor.

The meeting was called to order by the president, Dr. Zimmermann. The minutes of the meeting held April 19 were read and approved. The Board of Censors having acted favorably upon the application of Dr. A. L. Fuerth of Cape Girardeau, he was duly elected to membership in our Society. The application for membership of Dr. E. K. Statler of Millersville in due form was received and referred to the Board of Censors. The application of Dr. C. A. Poe for reinstatement was denied as he had been removed from this county so long he was not under our jurisdiction.

Some of our members having said that they had not received cards notifying them of banquet and meeting of April 19, Dr. Zimmermann explained how he had taken up the matter with the Cape Girardeau Post Office and they had declared they had surely delivered the cards and the parties must have overlooked them.

Dr. Hays presented his paper on "The Clinical Manifestations and Pathology of Heart Decompensation." This was an excellent paper, well prepared and many valuable points brought out. Dr. Hays is to be commended for giving us such a valuable paper.

After discussion of Dr. Hays' paper Dr. Zimmermann presented a paper on "The Management of Heart Decomposition" which was a valuable adjunct to that of Dr. Hays and together gave us a splendid program. It is seldom we have two as good papers as these presented at the same meeting. You who fail to attend our meetings can only find out what you are missing by coming out to meet with us.

D. G. SEIBERT, M.D., Secretary.

CHARITON COUNTY MEDICAL SOCIETY

The Chariton County Medical Society was entertained at Brunswick at its regular July meeting on July 10 by the members of the Society in Brunswick. All the officers and fourteen out of eighteen members were present. Guests from out of the Society were Drs. Frank C. Neff and Eugene Hamilton, of Kansas City, and Dr. Thos. Fleming, of Moberly.

Although there had been rumors current of the big preparations that were being made by the Brunswick men none of the members were quite prepared for the royal entertainment that they did receive.

A short business meeting was first held, at which time in addition to the regular business Dr. Zillman, who has been out of the Society for a number of years, reapplied for membership. Dr. Zillman was cordially welcomed to the Society again.

After the business meeting the Society were taken to the home of Dr. and Mrs. H. E. Tatum, where they were served an elegant and more than bounteous four-course dinner.

After dinner a social time was enjoyed until 8 p. m., at which time the Society was called to order by its President, Dr. Hardy, of Sumner. Most interesting

papers were read by Dr. Neff upon "The Young Infant," and by Dr. Hamilton upon "Intestinal Obstruction." These papers were both illustrated by lantern slides. They were ably presented and both of the Doctors are to be commended and congratulated upon having chosen subjects that were timely, instructive and of especial interest to the general practitioner of which this Society is entirely composed. The discussion of these papers was lively and interesting.

Dr. Tatum of Brunswick presented a very interesting case of a child with a congenitally absent patella.

Dr. Hawkins and Fellows of Salisbury read a paper, jointly prepared by them, entitled "An Unusual Case of Non-Nephritic Post Partum Eclampsia." The discussion on this paper was opened by Dr. Fleming, of Moberly, who had seen the patient referred to in the paper. Drs. Hardy, Welch and Brummall also discussed this paper.

A motion was made and unanimously carried to extend the Society's thanks to the Brunswick members for their royal entertainment to Drs. Neff, Hamilton, and Fleming for their contribution to the program and especially to Dr. and Mrs. Tatum for extending to the Society the hospitality of their home and to Dr. Bowen for the use of his room in the School of Pharmacy Building and his excellent "smokes."

Dr. Hardy invited the Society to Sumner as his guest for the September meeting. There was an unofficial rumor started at the same time concerning some wild ducks so an unusually large attendance is expected at the September meeting.

Not yet being satisfied the Brunswick men escorted the members to the Florence Hotel where a very neat and satisfying lunch was served. Adjournment was finally taken at 1 p. m.

Several members of the Society were heard to express the sentiment that never in their memory has there been a better spirit of cordiality and co-operation manifested among the members of this Society. It would seem that just such meetings as the Brunswick meeting would go far towards fostering and continuing such a spirit.

J. D. BRUMMALL, M.D., Secretary,
 RALPH M. FELLOWS, M.D., Vice-President.

CRAWFORD COUNTY MEDICAL SOCIETY

The Crawford County Medical Society held its regular annual meeting in this city, Thursday, June 19. The meeting was called to order in the offices of Drs. Horn and Parker by the president, Dr. G. W. Henderson, of Oak Hill.

The minutes of the last meeting were read and approved, following which some very interesting papers were read and talks on various topics were given by those present.

Dr. Henderson's paper on "Proctocology" was deeply interesting and showed much thought and preparation.

Dr. W. H. Breuer of St. James was present and gave a highly interesting talk on cancer, referring to cases that had come under his notice recently. He called especial attention to one case where a part of a peanut had been successfully removed from the lung of a child, a case similar to one very noted case operated upon in the East recently.

Dr. Breuer also spoke of the Rolla District Medical Society which will hold a meeting in Rolla in August. The society has not held a meeting since the war. He called attention to the Trachoma Hospital, a free state institution. This hospital is for the treatment of cases of trachoma, its services including board free.

Dr. A. H. Horn gave the society a very interesting

talk on insanity and mental deficiencies and future medicine. This is a study that the Doctor has given much attention to in the last four years, and his talk was given close attention.

Dr. W. J. Parker talked interestingly on dislocations and fractures, accompanied by X-ray pictures he had taken of special cases in and around Steelville. He showed conclusively the advantage of the X-ray in handling such cases.

Dr. Williams, of Bourbon, gave a splendid talk upon several cases of importance that had come under his care recently.

Altogether, the Society held a very interesting meeting and after the election of officers which resulted in the re-election of Dr. Henderson as president, and Dr. Parker as secretary, the session was brought to a close.

STODDARD COUNTY MEDICAL SOCIETY

The Stoddard County Medical Society met in Advance, July 2. Those present were: Dr. Allen of Bernie; Drs. Davis, Phillips and Briney of Bloomfield; Drs. Elmore and Page of Puxico; Drs. Lewis, Hindman and Reynolds of Advance; Drs. LaRue and Dieckman of Dexter; Dr. Tarpley of Swinton; Dr. Speer of Panton.

Dr. LaRue read the paper of the evening on "Emphysema," which was discussed by Drs. Elmore, Lewis, Speer and Briney. The necessity for the early recognition and surgical treatment of this disease was emphasized.

The Society will meet in Bernie early in August when various members will present a symposium on malaria embodying the latest discoveries regarding the nature and prevention of this disease.

W. C. DIECKMAN, M.D.

BOOK REVIEWS

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. By W. A. Newman, Dorland, A.M., M.D., Major M.C., U. S. Army Twelfth edition, revised and enlarged. Philadelphia and London: W. B. Saunders Company. 1923.

This edition of Dorland's popular medical dictionary has been revised in all its departments, many of the definitions being rewritten and additions made on practically every page. The book has been increased in size by 69 pages which is equivalent to over 3,000 new words. Much collateral information of an encyclopedic character is included in the book and many of the important subjects such as arteries, veins, bacilli and nerves, are illustrated. The book is bound in a flexible cover with good clear type.

QUESTIONS ACTUELLES DE BIOLOGIE MEDICALE (Present-Day Questions in Medical Biology). Par G. H. Roger, Dean of the Faculty of Medicine of Paris. Paper, 194 pp. Price, 16 fr. Masson et Cie, Paris, 1924.

The volume consists of a record of experiments on animals with regard to the various problems now confronting the medical world. For example, the "internal" functions of the lung, the effect of organic extracts on the cardio-vascular system, studies on the effect of the adrenal glands, the action of poisons on the liver, studies on ferments, the part played by the bile, etc.

In America such a series of experiments would be published in the *Journal of Experimental Medicine*, or some similar publication. Perhaps in a way it is better to have them published in single volumes in

this way in order that only those who are interested may be bothered to look them over.

To your reviewer the most interesting series of experiments were those showing the effect of the adrenal in cerebral hemorrhage, cerebral embolism, etc. These would indicate that it is the adrenal gland that holds up the blood pressure after its initial fall in cases of apoplexy.

The studies on the effect of organic extracts on the cardiovascular system have gone just far enough to excite one's interest and wish for further information. Possibly the chief value of the volume would be to stimulate research workers and those equipped with appropriate laboratories to work out these problems.

G. H. H.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A. Thirty-fourth series, 1924. Vols. I and II, March and June. J. B. Lippincott Company, 1924.

It is difficult to evaluate these volumes because they contain such a mixture of material. For example, in each of them there is a clinical lecture by Barker well worth reading. Some of the other articles are on subjects of minor importance or of rarer occurrence. In general, we would say that these volumes make interesting reading for one who has time to pick up a book now and then and skim through articles of general interest.

G. H. H.

ETUDES MEDICO-RADIO-CHIRURGICALES SUR LE DUODENUM. Par Pierre Duval, J.-Ch. Roux, Henri Bécère, De la Faculté de Médecine de Paris. Paper, 264 pp. avec 127 figures. Price, 35 fr. Masson et Cie, Paris, 1924.

This book treats three main divisions: Alterations in the form, calibre and situation of the duodenum, stenosing duodenitis and compression of the duodenum by the sort of the mesentery. The presentation is clear, both in text and illustrations. The treatment of these affections likewise is presented in detail. Nowhere else is this subject handled so satisfactorily in so brief a space. The book is well worth any surgeon's attention.

A. E. H.

LA CHRONAXIE CHEX L'HOMME. Etude de Physiologie Générale (Normale et Pathologique) Des Systemes Neuro-Musculaires et Sensitifs. Par le Dr. Georges Bourguignon, Docteur ès Sciences, Chef du Laboratoire d'Electro-Radiothérapie de la Sal-Petrière. Membre correspondant de l'Académie Royale de Médecine de Turin. Avec 50 Figures et 192 Tableaux dans le texte. Masson et Cie, Editeurs: Libraires de l'Académie de Médecine. 120, Boulevard Saint-Germain, Paris (VIe.). 1923.

This series of researches is an attempt to find for motor nerves and the corresponding muscles in man, when electrically stimulated, valves which shall be characteristic of the respective nerve-muscle apparatus, accidental effects due to the conditions of the experiment being eliminated.

The writer attempts to obtain in a clinical way this "characteristic of excitability" which had been developed experimentally under the name of "chronaxie" by L. Lapicque and Mme. Lapicque.

Chronaxie is the name applied to a mathematical ratio which involves the element of time of passage of a stimulating current. The ratio is derived from the formula of Hoorweg, which applies to discharges from a condenser, and from the similar formula of Weiss, in which a constant current is presupposed. Hoorweg's law concerns the relation between voltage and capacity of condenser in order to produce a

threshold contraction. It states that with increasing capacity the necessary voltage diminishes to a minimum value, but does not fall below this value no matter how large the capacity becomes. In the formula expressing this law two constants appear, b is the minimum threshold voltage for capacity indefinitely large, a is the quantity of electricity necessary to maintain the voltage b . The ratio $a-b$ being the quotient of quantity by intensity is a time and represents the "chronaxie" of Lapicque. From a mathematical transformation it appears that this ratio is equal to the time of passage of the current when the voltage is just twice the intensity necessary to produce the threshold contraction.

Three laws of general physiology are deduced from measurements of chronaxie: 1. Chronaxie characterizes excitability, and does not vary with experimental conditions so long as these do not affect the excitability. 2. Chronaxie classifies muscles according to the duration of their contraction. In tetanic contractions it varies as the latent time and inversely as the rate. 3. A muscle and its motor nerve have the same chronaxie.

Bourguignon's contribution to the subject is in application of the method to muscles and nerves through the skin so that it can be used clinically. The results of his work upon normal and pathological subjects are too numerous to be stated completely. One useful conclusion is that the return of function after section and suture of a nerve can be measured by the chronaxie.

Observations of chronaxie show that the values obtained for muscles causing movements forward are much less than those causing movements backward, thus dividing the muscles of the body by a frontal plane into two distinct parts.

Muscles which participate in a single movement have the same chronaxie. If in pathological conditions synergy is destroyed, chronaxie is found no longer to be uniform. The attitude of limbs at rest is related to the difference between chronaxies of anterior and posterior groups.

Chronaxie classifies lesions of the neurones, without degeneration, into two groups. When there are involuntary movements (tremor, chorea, athetosis, etc.), chronaxie is normal. When there is muscular rigidity, chronaxie is modified in the sense that the difference between the values for the spastic muscles and for the non-spastic muscles is greater than normal. When all the muscles of a limb are spastic the difference between the anterior and posterior groups is less than normal.

Bourguignon, in brief, offers a method by which various normal and pathological properties of the nervous system may be subjected to exact measurement, instead of the rough methods of inspection, palpation, etc., now in use.

It seems to the reviewer that the writer's method is most useful in clinical neurology in determining the presence and rate of regeneration after resection and sutures of nerves. On account of the complicated apparatus the method is hardly feasible outside a well-appointed laboratory. E. T. G.

MEDICAL AND SANITARY INSPECTION OF SCHOOLS. For the Health Officer, the Physician, the Nurse and the Teacher. By S. W. Newmayer, A.B., M.D., Assistant Chief Medical Inspector, Bureau of Health. Cloth. Price, \$4. Pp. 462, with 85 illustrations. Philadelphia: Lea & Febiger, 1924.

A short perusal of this book will give abundant evidence that the author has a well ripened knowledge of school sanitation in all its phases and the ability to impart that knowledge in excellent style.

There is no padding, no long statistical tables so often found in a book such as this. There is a good

chapter on administration and school building and grounds that will be found useful to sanitarians in smaller cities.

The discussion on exclusions and quarantine in communicable diseases embodies all the newer knowledge of this subject. A consideration of physical defects found in medical inspection especially eye and teeth defects, is excellent.

There is much in the book that will be valuable to teachers, school authorities and health authorities alike. For instance, the chapters on retarded mentality, method of analysis of pupil reports, medical inspection by teachers and nurses and rural school sanitation are not technical subjects and are of interest to many, other than medical officers. There are also suggestions for civil service boards in the form of questions to be used in competitive examinations for school inspector and school nurses.

H. L. D.

RHUS DERMATITIS FROM RHUS TOXICODENDRON, RADICANS, AND DIVERSILOBA (POISON IVY). ITS PATHOLOGY AND TREATMENT. By James B. McNair. Chicago: University of Chicago Press. 1923. 298 pp.

Especially valuable to those interested in dermatology, this book, though not written by a physician, contains much information, medical and otherwise. Several of the chapters summarize original investigations by the author, but the majority are compilations. The original work is chiefly on the botany and chemistry of the irritant substance of Rhus. The chapters on clinical subjects, except the one on immunity, are mediocre in value.

The treatment advised consists in puncturing the blebs and in the use of a detergent wash composed of five per cent. of ferric chloride in fifty per cent. alcohol, to be followed when the skin is dry by a coating of "parowax" sprayed from a hot atomizer, cotton being finally incorporated in the last layers of the wax.

Thirty-five pages devoted to "Abstracts of Typical Cases from Medical Literature" accomplished nothing but a waste of good paper.

There is appended a fairly extensive, though by no means complete, bibliography, chiefly of English and American writings.

Recommended only to those especially interested in Rhus dermatitis. N. T.

THE CARE OF THE BABY. A Manual for Mothers and Nurses, containing practical directions for the Management of Infancy and Childhood in Health and Disease. By J. P. Crozer Griffith, M.D., Professor of Diseases of Children in the University of Pennsylvania. Seventh Edition Thoroughly Revised. 12mo of 478 pages with 104 illustrations. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$2.50 net.

This book has long been popular and this seventh edition should be no exception. The chapters on the general care of the baby are unusually good, especially the one on the baby's clothes. The chapter on feeding is good in so far as general rules are given. With the number of physicians increasing who are becoming interested in baby feeding and with the more recent graduates of medical schools who have had adequate teaching on the care and feeding of infants, it is to be hoped that chapters on feeding the baby in books of this kind can soon be eliminated. It is to be regretted that there is not a chapter on preventive medicine in the book. The value of regular visits to the physician or welfare clinic to have the child weighed and advice given about its food and care has been proven, especially in the first two years of life; also such preventive

measures as diphtheria toxin-antitoxin and smallpox vaccination could be taken up in this chapter instead of having them mentioned in the chapter on "The Sick Baby."

"Keeping the Baby Well" should be more emphasized than taking a sick baby to the physician; practically every mother will take her sick baby to the physician, but does not see the necessity of taking a well baby to have advice given to keep the baby well. M. J. L.

MANAGEMENT OF DIABETES. Treatment by dietary regulation and the use of insulin. By George A. Harrop, Jr., M.D., associate in medicine, College of Physicians and Surgeons, Columbia University, and Assistant Visiting Physician, Presbyterian Hospital, N. Y. Paul B. Hoeber, Inc. New York. 1924. Price \$2.00.

While there are now available a considerable number of excellent textbooks on the management of diabetes, most of them, even the recent excellent book of Joslin, are somewhat bulky and suitable rather for reference than as handy manuals. The smaller dietetic hand books on the other hand are too brief and assume a knowledge of the disease not at the disposal of many general practitioners. Harrop's well balanced little volume avoids both extremes.

Beginning with a brief but clear presentation of the notions of today, concerning the metabolism of diabetes, it proceeds to a somewhat comprehensive presentation of the dietetic and insulin management of the disease, with its complications. There follow two useful chapters on diabetic recipes and food value tables. Finally an excellent chapter on laboratory methods is notable for a useful simplification of the van Slyke determination that puts the latter at the disposal of any physician trained in routine simple that the book is suitable not only for the pre-laboratory methods. The language is so clear and tititioner but may be properly placed in the hands of any intelligent patient.

It is regrettable, though perhaps inevitable in view of the necessary compression, that there is no discussion of the important and interesting group of non-diabetic glycosurias. A. E. T.

DIATHERMY AND ITS APPLICATION TO PNEUMONIA. By Harry Eaton Stewart, M.D., Attending Specialist in Physiotherapy, U. S. Marine Hospitals, N. Y. Cloth. Price, \$3 net. Pp. 210, with 45 illustrations. New York: Paul B. Hoeber, Inc., 1923.

This little book of two hundred and four pages illustrates very well the defects of electrotherapeutic literature. The main thesis of the book is that diathermy is an important therapeutic procedure in pneumonia and that its use will lower the mortality of pneumonia. In the opinion of the reviewer the thesis has not been proved. The author gives the mortality of cases of pneumonia treated by diathermy as 19.4 per cent. This is certainly not a particularly good record, it being about the average mortality of hospital patients when those patients have previously been living under sanitary conditions, that is to say, were not victims of alcoholism or undue exposure or under nutrition. Considering that the author was a physician in a United States Marine Hospital and dealt with vigorous young male adults, the mortality rate of his cases is certainly not strikingly good. For the cases untreated by diathermy he reports a mortality of 42.9 per cent. This is certainly an extremely high mortality for any series of cases of lobar pneumonia and the implied comparison is totally unfair.

Of the detailed case histories which are given to show the influence of diathermy, in Case 1 and Case 2, and several other cases it is evident from the chart that the diathermy was begun when the

patient had begun to recover. In others, such as Case 4, Case 5, Case 6, Case 7, Case 8, it is evident from the chart that the use of diathermy had no influence on the course of the case whatever. For instance, in the chart recorded on page 145 the diathermy was begun on the second day when the temperature was 104 and was given apparently every day once or twice for six days, at which time, the seventh day of the disease, the crisis occurred. At the sixth day of the disease and the fifth day of the treatment the temperature was 104 and the pulse was 150. It is difficult to see why any human being would consider this a case in which the treatment had any influence whatever on the course of the disease, that is provided he knew anything whatsoever about an acute disease such as lobar pneumonia or anything about the principles of therapeutics or the laws of pathology. L. C.

NOUVEAU TRAITE DE MEDECINE. Publié sous la direction G. H. Roger, Fernand Vidal, P. J. Teissier: Secrétaire de la Rédaction, M. Garnier. Fascicule VIII: Pathologie des Glandes endocrines. Troubles du développement. Cloth. Price 40 francs. Pp. 455, illustrated. Masson et cie, Paris. 1923.

This is an excellent summary in one volume of the present knowledge of endocrinology. It is worth having on the desk for reference even though it is not as far advanced in its studies as the periodical literature. This must necessarily be the case because in such a volume are the results of studies one or two years prior to the date of publication. Consequently, it is not up to the minute as are our American periodical publications on this similar subject.

The authors do one good thing in that they consider the disorders of development separate from any particular endocrine glandular trouble. This is better than in our American literature where we have to search out the material under the caption of the different glands which we think might be involved in the particular case we have studied. Yet we are not always sure which gland it is that is responsible for the developmental dyscrasia. G. H. H.

GASTRIC AND DUODENAL ULCER. Two lectures by Sir Berkeley Moynihan. Leeds, England., Bristol, London and New York: William Wood & Co., New York City. 1923.

This booklet is made up of two lectures delivered in 1923 before the Hunterian Society of London. The material is presented in clear, forcible English and from the standpoint of the surgeon. It would be well, therefore, for the internist to read these lectures because they contain a rather strong indictment against the medical man for his practice in cases of gastro-intestinal disorders.

Moynihan says that he depends for diagnosis on the history, the radiologist and the chemist. He finds that clinical symptoms are hardly trustworthy. He uses the fractional estimation of the gastric contents by the method of Rehfuess.

Before he will operate on a case (unless it be an emergency) he demands that a dentist X-ray and clean up the teeth and that all other local infections be cleaned up.

Moynihan's charge against the internist is that he is never sure of his diagnosis and less so of his cure. Practically all the cases that Moynihan had operated upon had been subjected one or more times to medicinal cures. He is, therefore, of the opinion that when a medical man cures a case of gastric or duodenal ulcer it is because of a mistaken diagnosis.

Moynihan finds that of his 718 cases upon which he has operated in the last ten years, 531 were of duodenal ulcer (433 men, 98 women); 164 cases of gastric ulcer (men 83, women 81). In 152 cases one ulcer was present; in 12 cases two or more ulcers

were present. There were 23 cases where both gastric and duodenal ulcers were present (men 10, women 13). During the ten years there was no death from operation upon these cases of duodenal ulcer. The mortality of cases in gastric ulcer alone or associated with the duodenal ulcer in which gastrectomy was performed, was 1.6 per cent. He had operated upon 50 cases of jejunal ulcers in six of which he had performed the primary operation.

In studying the mortality records of the Leeds Infirmary, Stewart and Moynihan found that among the gastric ulcers, 75 deaths were due to hemorrhage or to perforation and peritonitis. There were 61 from perforation. In 60 cases the ulcer was of the chronic type, in one it was acute. There were 14 cases of deaths from hemorrhage; in 13 cases the ulcers were of the chronic type, in one it was acute. During the same period there were 129 cases in which death was directly attributable to hemorrhage from duodenal ulcer or to its perforation. There were 12 deaths from hemorrhage, in all of which the ulcer was of the chronic variety. There were 117 deaths from perforation. In 12 of these there was an acute ulcer. In four of the 12, chronic ulcers also were present and in each case it was the chronic ulcer which had perforated the acute ulcer being merely incidental. In the remaining 105 cases the ulcer or ulcers were of the chronic type.

Moynihan condemns gastroenterostomy except for cases where a more complete operation cannot be done. He favors in any case the local treatment of the ulcer either by excision or by cauterization.

Moynihan believes that many of the symptoms of ulcer are due to nicotine poisoning and, therefore, he condemns the use of tobacco in all these cases. His charts are interesting but fail to convince your reviewer because it is not stated whether the patients involved were vagotonics or not, or on how many cases the tests had been carried out.

Moynihan questions the value of treatment of gastric ulcer by alkalies because his studies have shown him that only a few gastric ulcers are accompanied by hyperchlorhydria.

G. H. H.

NUTRITION OF MOTHER AND CHILD. By C. Ulysses Moore, M.D., M.Sc. (Ped.) Instructor in Diseases of Children, University of Oregon Medical School. Philadelphia and London. J. B. Lippincott Company. 1923. Price \$2.00.

This is an up to date, interesting to read volume on the care and feeding of children, especially infants, and notable for the wealth of carefully worked out diet lists for the various ages of childhood covered. The book is especially addressed to the mother, nurse, social worker, and student of nutrition. Chapter VII on the development of breast milk, and particularly the description of manual expression and stimulation of the breast where the supply is failing, should be read by every doctor who gives up easily, discarding the breast feedings only to throw the child off on some prepared food. Also all mothers, nurses, dietitians and nutrition workers should digest the carefully worked out diet lists for every age of childhood, as given in Chapter IX. This is no doubt the outstanding chapter of the book, and the merits of this chapter alone should place this volume in every medical library.

D. W.

LES PROCESSUS DE DESINTEGRATION NERVEUSE. By Dr. Ivan Bertrand, Chef de Laboratoire à la Faculté de Médecine de Paris. Préface du Professeur Pierre Marie. Masson et Cie, Editeurs: Libraires de L'Académie de Médecine, 120, Boulevard Saint Germain, Paris VIe. 1923.

This is a neurological study from the laboratory of the Salpêtrière in Paris. It will be of interest to the pathologist because of the technical methods and

also because of the writer's views upon the classification of the products of degeneration of nervous tissues.

The book is far more than a technical study. It is a monograph with closely knit argument leading to definite conclusions. One finishes the book with satisfaction in a good piece of work well done.

Under normal conditions a continuous process of disintegration is going on in the nervous system. The products of this change carried by the cellular elements, represent histologically the metabolism of the brain. Pathological states are represented merely by an intensification of this process and by an increase in the cellular elements. The large number of methods employed in studying degenerative products has led to a great complexity in classification, but the author believes that a great proportion of these products in reality belong to a single closely linked series, which converges finally to simple fats, reducing osmic acid and staining with Scharlach. A minor series leads finally to albuminoid products, of which amyloid bodies are the most common.

In treating of phagocytic cells of mesodermic origin Bertrand brings out certain facts which are worth repeating. Vessel walls, under the influence of various chemical substances, whether microbial or diffused from a necrotic focus, undergo a metaplasia into wandering phagocytic cells. This so-called perivascularitis is pathognomonic of no particular disease but is found to some degree in every pathological process of the central nervous system. It is important not to regard it as always an index of infection (e. g. paresis). Although lymphoid metaplasia of vessel walls usually disappears without a trace, it may result in endarteritis.

The elimination of the products of disintegration is by way of the perivascular spaces to the spaces beneath the meninges and the ependyma and finally into the cerebro-spinal fluid, where they can be recovered and examined. It will often be impossible by examination of the spinal fluid to distinguish between meningitis proper and a meningeal reaction due to a central degenerative lesion.

There is no pathognomonic histological formula for any given affection, though study of the products of disintegration may give a strong presumption of the nature of the disease. Diagnosis must be completed by clinical and biological examinations.

The bibliography covers ten pages and appears to contain nearly everything that has been written on the subject. The reviewer recognizes the names of only two American investigators, Van Gieson and Farrar, and the latter did his work in a German laboratory.

E. T. G.

NEW AND NONOFFICIAL REMEDIES, 1924, containing descriptions of articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1923. Cloth. Price, postpaid, \$1.50. Pp. 422+XXXIX. Chicago: American Medical Association, 1924.

Every physician is continually bombard-ed with literature, scientific and otherwise, concerning the newer remedies. He has neither the time nor the opportunity to investigate all even of the more promising preparations, and obviously he cannot try them upon his patients without investigation. He must know the composition of the article, must know that the claims under which it is marketed are true; in other words, he must have some critical statement of the actions, uses and dosage as well as of the chemical and physical nature of the product.

This need of the physician is met in New and Non-official Remedies, which is the official publication through which the Council on Pharmacy and Chemistry annually presents to the American medical profession disinterested, critical information about the

proprietary preparations which the Council deems worthy of recognition. In addition to the description of these proprietary preparations, the book treats those nonofficial remedies which, in the opinion of the Council, are worthy of consideration.

As the book is designed for ready reference, each preparation is classified, and each classification is preceded by a general and critical discussion of that group. These articles are written by those who may speak with authority on the separate subjects, and are a compilation of the best accepted opinions of today. Thus there is a general article on lactic acid-producing organisms in which the newly accepted *Bacillus acidophilus* preparations are discussed in connection with other accepted sour or fermented milk preparations. The animal organ preparations, the biologic preparations, the arsenic preparations, and so on, are discussed in such a manner as to make the accepted facts concerning each group readily available.

A glance at the preface of the new volume will show that the book has been extensively revised. In fact, each new edition of New and Nonofficial Remedies is essentially a newly written book, fully indexed.

Physicians who wish to know why a given proprietary is not described in New and Nonofficial Remedies will find the References to Proprietary and Unofficial Articles not found in N. N. R. of much value. In this chapter (in the back of the book), there are references to published articles dealing with preparations which have not been accepted.

New and Nonofficial Remedies is a book that a physician who prescribes drugs cannot afford to be without. The book contains information about medicinal products which cannot be found in any other publication.

The book will be sent postpaid by the American Medical Association, 535 N. Dearborn Street, Chicago, on receipt of one dollar and fifty cents.

LECTURES ON ENDOCRINOLOGY. By Walter Timme, M. D., Attending Neurologist. Neurological Institute, New York; Professor of Endocrinology, Broad Street Hospital; Professor of Nervous and Mental Diseases, Polyclinic Medical School and Hospital; President, Association for the Study of Internal Secretions. (With twenty-seven illustrations.) N. Y., Paul B. Hoeber, Inc. 1924. 123 pp.

This booklet is a collection of the articles on clinical endocrinology which appeared in the Neurological Bulletin for January, 1924. It presents a moderately comprehensive view of the functions of the ductless glands, dividing these organs into groups depending upon the chronological periods of their activity. For instance, the human life cycle is divided into three spans, the first from birth to puberty; the second from puberty to prime; and the third, from prime to exodus. These divisions are considered by the author to form quite characteristic epochs of internal glandular mechanism. The first one is described as one in which there is accretions, growth and development. The second one, normal adult life, consists of full development, physically and functionally. It is quoted as a period of advance and aggression and the reproduction of kind. The third period is one of regression. The ductless glands which are active during these stages are given as follows: During the first stage, the thymus and pineal glands; during the second stage, the gonads, the thyroid, pituitary and adrenal, and during the third stage there is a gradual diminution in activity of the latter group.

The author takes these glandular units in order and describes the effect of their function on the body tissue, the growth and development and metabol-

ism. Besides this he attempts to correlate their activities and describes their mutual interrelationship and so-called normal internal secretory equilibrium upon which so many complex situations may be more readily interpreted.

It is the most comprehensive biological review of the internal secretions as a whole given in a rather short, terse, direct manner. It presents at the same time frank clinical pictures of individual ductless gland disorders with a proper relationship of the individual glandular dyscrasias to the entire endocrine system. In nearly all the author's writings he has considered disorders of the individual ductless glands as only a cross-section of the pluriglandular syndrome and for this reason has stressed to a considerable degree the importance of previously existing disorders of the internal secretions antedating individual ductless gland complexes as well as a sequence of the disturbance of other glandular function upon the future growth, development, metabolism and clinical aspects of the individual. In doing this he has properly related the functions of the intraglandular structures to the sympathetic nervous system and emphasized to a considerable extent the relationship of ductless gland disorders to many of the common clinical syndromes.

W. E.

CLEFT LIP AND PALATE. By Truman W. Brophy, D.D.S., M.D., LL.D., Oral Surgeon to Michael Reese and St. Joseph's Hospitals, Chicago. Cloth. Price \$6. Pp. 340, with 466 illustrations. Philadelphia: P. Blakiston's Son & Co., 1923.

Heubner once complained that all medical books were written by young men. This complaint certainly is not justified in this case for the author has been active for half a century. The book gives evidence of this long service for on every hand there is evidence of one sure of his ground.

The first 72 pages are given over to cleft lip. Every known condition seems to have been fully dealt with. It is particularly full of small details for the correction of the smaller defects after the main deformity has been corrected. This is the only place to my knowledge where this information is to be obtained.

The greater portion of the book comprising more than 200 pages is given to the discussion of cleft palate. As is to be expected this is occupied with the full presentation of the operation which has given the author world fame. Every detail conceivable seems to have been fully considered.

Aside from the many excellent qualities that impress is the mortality. For cleft lip it is given as nearly 5 per cent with the high point of more than 7 per cent between the ages of 1 and 2 years. For cleft palate the average has been about 2 per cent in later years while in the earlier years prior to 1915 it was as high as 13 per cent between the ages of 1 and 2 years. This is a mortality that few surgeons would care to face. Considering the author's vast experience it is to be presumed that the beginner would need to accept even a higher death rate.

However, whether the reader is willing to accept the teachings as a whole or not there are many minor points useful to anyone no matter what his fundamental technic may be. Therefore, every one interested in this field will absorb much from the reading of the book.

A. E. H.

DISEASES OF THE SKIN. By Frank Crozer Knowles, M. D., Professor of Dermatology, Jefferson Medical College. Second edition. Cloth. Price, \$6.50. Pp. 595, with 243 illustrations. Philadelphia: Lea & Febiger, 1923.

A textbook on dermatology should have four outstanding features: (a) A good clinical description

of diseases; (b) A limited number of characteristic photographs showing excellent detail; (c) A clear cut description of the pathology of such disease; (d) A rational therapeutics which is built upon and inter-related with the pathology of those diseases.

In this sort of work there should not be a voluminous bibliography for no one ever uses a text book for the references to literature unless that individual also wishes to write a text book. Individual ideas and individual observation give character and depth to any book and a good text book is no exception to the rule. We do not mean to say that the outstanding literature should not be cited but many books have too much of it.

This book in many ways meets all of these requirements. A good deal of attention is given to the diseases that have become more common since the war, such as epidermophytosis in general diseases due to faulty metabolism and focal infection as a possible cause of disease. The use of Bismuth compounds, arsphenamines and mercury preparations are discussed at some length.

Taken as a whole the book is an excellent treatise on diseases of the skin and syphilis. C. C. D.

INSPECTION-PALPATION PERCUSSION AUSCULTATION. Maurice Letulle. Professeur à la Faculté de Médecine de Paris; etc. 133 figures, dont 12 planches de Radiographie hors texte, expliquées et commentées. Troisième édition, revue et considérablement augmentée. Masson & Cie, Editeurs. Libraires de l'Académie de Médecine, Paris. 1922.

This book is a manual of the technic of physical examination intended for medical students. The present third edition differs from the previous editions in the introduction of radiographic plates to explain and support the findings by the older methods. The presentation is mostly by drawings, the text being reduced to a minimum.

There are five divisions in the book, devoted to examination of the respiratory, circulatory, digestive, urinary and skeletal systems. The manual contains 133 illustrations, of which twelve are reproductions of radiograms, the remainder being line drawings. The text is admirably clear and succinct. Emphasis is placed upon "immediate" examination, even for auscultation, though the use of pleximeter and stethoscope are exemplified. E. T. G.

RECOVERY RECORD FOR USE IN TUBERCULOSIS. By Gerald B. Webb, M.D., Consulting Physician Cragmor, Glockner, and Sunnyside Sanatoria; Late Lieutenant Col. M. C. U. S. A., Senior Consultant in Tuberculosis in A. E. F., and Charles T. Ryder, M.D. New York: Paul B. Hoeber, Inc., 1923. Price, \$2.00.

This text contains a lot of good advice to patients and also a diary in which they can note temperature, pulse, weight, and other interesting items from day to day.

The diary is greatly enlivened by having quotations from ancient and modern authors from Spenser and Shakespeare down to Pasteur and Trudeau.

The book costs two dollars. Probably often it would be a good investment for physicians handling tuberculous patients to put the book into their hands. For it would tend to stimulate interest in the principles of the treatment, and sustain interest in the routine of chasing the cure. G. H. H.

THE DEVELOPMENT OF THE SCIENCES. Lectures delivered at Yale University. By Ernest William Brown, Henry Andrews Frumstead, *et al.*, edited by L. L. Woodruff. New Haven: Yale University Press. 1923. Price, \$3.50.

This very interesting book takes up in a brief way the history of the development of the sciences of

mathematics, physics, chemistry, astronomy, geology and biology. Following this is a brief biography of a large number of noted scientists and finally a bibliography of books on the history of science. Each chapter is written by a professor in Yale University, which is a sufficient guarantee of the authenticity of the presentation.

Medical men will be chiefly interested in the chapter on Biology. The impressive thing in this chapter is the development of science. It was to the activities of medical men that the backbone of science depended on very largely throughout the middle ages.

It is interesting to note, too, that in all sciences advancement occurs at varying points from time to time and in this irregular way the whole line of progress is advanced. No book gives a better brief outline of the interdependence of the various branches of science in this general advancement.

Each chapter is of such length that it can be carefully read in an evening and when the book has been read one has the feeling of having been entertained as well as of having his general horizon cleared. The book can be heartily recommended to all scientific men.—J. M. B.

CHILDREN'S DISEASES FOR NURSES. By William Palmer Lucas, A. B., M. D., LL. D., Professor of Pediatrics, University of California Medical School. Cloth. Price, \$3.50. Pp. 574, with 155 illustrations. New York: The Macmillan Company, 1923.

This is a work of 575 pages, with 155 illustrative figures and reference notes from medical and nursing literature which furnish plenty of reading and research for nurses who are students of the subject. An introductory chapter gives a brief history of children's nursing and the fundamental principles therein, with an explanation of the differences between the child and the adult.

The book is divided into two parts, that dealing with infancy and that for older childhood. The prenatal period, the newborn, the observations of infant life, especially the peculiarities of infancy and children, with hygiene, feeding, and the feeding and nutritional disorders of early life are well treated.

In later childhood, not only the diseases but mental conditions are discussed. Much of the physiology of childhood is described. We hope that in a second edition the psychology of childhood will be more fully discussed as Professor Lucas is an authority on this subject and we have found that many nurses, especially in their general training, have learned very little about the handling of the frightened or neuro-pathic child and have not developed the infinite patience and adaptability necessary to win the confidence of the child or the mother. Physicians need this too.

The book is up-to-date, its subject matter is written in clearly understandable language. Physicians who employ nurses to care for children should be familiar with the contents of such a text book as this for the better knowledge he has of pediatric nursing the better he and the nurse will care for the sick child. F. C. M.

LECTURES ON DIETETICS. By Max Einhorn, M.D., Emeritus Professor of Medicine at the New York Post-Graduate Medical School and Hospital; Visiting Physician to the Lenox Hill Hospital, New York. 12mo of 244 pages. Philadelphia and London: W. B. Saunders Company. Cloth, \$2.25 net.

This edition of Einhorn's Lectures on Dietetics has been expanded from eight to seventeen lectures. The author presents in conversational form his personal ideas on dietetics, and gives his very valuable experience in the application of various methods of feeding. Included in the volume are outlines of

diets which will prove valuable to the practitioner, and easily accessible. The statement of the older and less exact dietetic methods of dealing with diabetes mellitus might well be omitted in view of the extensive consideration of the Allen treatment. The methods of extra-buccal nutrition are gathered together in a concise and efficient manner. W. B.

VENEREAL DISEASE IN THE AMERICAN EXPEDITIONARY FORCES. By George Walker, M.D., Late Colonel, Medical Corps, U. S. A. Medical Standard Book Co., Baltimore, Md. 1922.

This book deals with the various problems and difficulties the American medical profession had to contend with during the World War. The book gives a concise account of the various methods of prophylaxis practiced in the American Army and Navy.

The amount of statistical evidence presented in this book impresses one very favorably with the great efficacy of prophylaxis against venereal diseases as applied to a large body of men. The many interesting experiences brought out in this book could very well be carried out in civilian life. The book reads with great ease and interest. It is not only of great interest to the hygienist, but to medical men generally. H. S.

OBSTETRICS FOR NURSES. By Charles B. Reed, M.D., Obstetrician to Wesley Memorial Hospital, Chicago. Second Edition. 144 Illustrations including 2 color plates. C. V. Mosby Company, St. Louis. 1923. Price, \$3.50.

The first half of the book is a resumé of our present day knowledge of the physiology and pathology of obstetrics. The chapters on the care of infants follow, and contain valuable information for the nurse. Information of the kind that is only to be found in the nurse who has trained in a maternity hospital.

The therapeutic index, glossary and general index are so arranged that they make the book of real value to the nurse, both student and graduate.

W. C. G.

A MANUAL OF PHARMACOLOGY AND ITS APPLICATIONS TO THERAPEUTICS AND TOXICOLOGY. By Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University, Cleveland. Second edition, entirely reset. Octavo of 1066 pages. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, \$7.00 net.

This is the second edition of a well known, valuable text book which has become now almost the American classic on this subject. The subject matter has been revised and added to considerably, thus making the present edition even more valuable than the first. L. C.

MANAGEMENT OF THE SICK INFANT. By Langley Porter, B.S., M.D., M.R.C.S. (Eng.), L.R.C.P. (London.) Professor of Clinical Pediatrics, University of California Medical School, etc., and William E. Porter, M.D., Assistant in Pediatrics and Chief of Out Patient Department, University of California Medical School, etc. St. Louis: C. V. Mosby Company. 1924. Second revised edition. Illus. 659 p.

This is the second edition of this work, the first having appeared in 1922. There is very little change of any sort and the natural assumption is that the first edition consisted of too few volumes, necessitating another supply. Extended comment on this edition is therefore superfluous. It contains a large amount of valuable practical information of a sort that is not easily found in other books. This is the outstanding feature of the volume. Details of man-

agement in this or that illness, while simple and often largely a matter of practical common sense, are given scant space in the usual text-book on pediatrics, which, of course, cannot be helped. Porter is more generous with this information.

Many details of treatment, particularly those simple items that are so likely not to occur to the practitioner, are given in excellent detail.

In diagnosis this volume will be of little aid. Many conditions that are sketchily described might better not have been described at all; tuberculous meningitis, for instance. P. G. H.

DISEASES OF MIDDLE LIFE. Comprising 22 original articles by various eminent authorities. Edited by Frank A. Craig, M. D., associate director of the Clinical and Sociological Department of the Henry Phipps Institute of the University of Pennsylvania. In two volumes. Illustrated. Philadelphia. F. A. Davis Company. 1923. Volumes 1 and 2, price \$15.00 net.

Your reviewer confesses that he opened this work with a prejudice against it, for he had seen the development of childhood as a specialty in medical practice. He had seen the attempt to make a specialty out of old age and felt that one would be going beyond the limits in making middle age also a specialty. But the reading of some of the articles (because a reading of them all was beyond your reviewer's time limits) has convinced him that it is a worth while production. Its merits lie in the sanity with which the subjects are treated. They are written without that ultra-scientific endency shown in most of the literature of the past few years. They are written with a good historical background and the writers have shown admirable sense of proportion.

In his preface, Dr. Craig gives as the '*raison d'être*': "There are numerous works dealing with old age, its peculiarities, characteristics and manifestations, and the special features of disease occurring in that period, together with their appropriate treatment—many books have been written upon the prolongation of life, usually by men who are firm believers in some special method of treatment or some mode of life which they have reason to believe of special value. The following work is based upon the belief that the time to treat old age is during middle life and that the arrest or cure of disease in its early stages is the only logical and rational basis upon which can be formulated any method for the prolongation of life or for rendering old age an efficient and enjoyable period of existence instead of one of semi-invalidism as is unfortunately so frequently the case."

In his introduction, Dr. Craig quotes Jameson as saying, "The problem of prolonging life thus appears to consist either in finding an antidote to the harmful products that gradually accumulate as the result of the body's metabolism, or in replacing that substance responsible for youthful condition and gradually destroyed in growth—or in both. At any rate, the bacteria no longer have the odious distinction of being the sole enemies of human longevity."

For one class of readers the book is of extreme importance and that is for those who are going to do the periodic medical examinations so loudly advocated by the insurance companies and by the commercial organizations who are pushing that service, for the articles on the heart, the kidneys, on gout, and similar disorders, are written with the idea of detecting the beginnings of trouble. The reading of these articles makes it appear evident that much of the literature of periodic examinations is nonsense because no family physician is going to be able to equip himself with the library and the instruments

necessary to make such detailed studies. It will be necessary if such examinations are to be worth while that the electrocardiograph be employed, that studies on sugar metabolism, protein metabolism, with functional tests of all sorts, be made if we physicians are going to make it worth while for our patients to come to us for regular examinations.

It is difficult to select any particular writers for praise or dispraise. The book is well gotten up, well bound, and a credit to American literature.

G. H. H.

BLOOD CHEMISTRY COLORIMETRIC METHODS FOR THE GENERAL PRACTITIONER with clinical comments and dietary suggestions. By Willard J. Stone, M. D., Pasadena, California. Attending Physician, Los Angeles General Hospital. Introduction by George Dock, M. D., Pasadena, California. N. Y., Paul B. Hoeber, Inc. 1923. 75p. Price, \$2.25.

This book is a compact compilation of the newer methods that have been found most useful in determining the chemistry of the more important blood constituents. This includes chapters on Uric Acid, Creatinin, Blood Sugar, Blood Chlorides, Blood Cholesterol, Non-Protein Nitrogen and Urea, as well as some newer urine determinations and clinical comments on impaired kidney function. Diets are also outlined. As Dr. Dock says in his introduction, "those who have been discouraged by the mass of detail given in more exhaustive textbooks will find it a clear and accurate guide."

R. L. T.

NOUVEAU TRAITE DE MEDECINE. Fascicule XIII. Appareil digestif (Bouche, Pharynx, Oesophage, Estomac). Cloth, 810 pages. Masson et Cie, Paris. 1923. Prix 50 fr. net.

This volume is printed like the preceding volumes, on a dull, but very good quality paper, and is very conveniently arranged. The authors of this volume are Babonneix and Darré, who write on the pathology of the mouth and pharynx; Bensaude and Rivet, who write on the pathology of the esophagus; Noir and Agasse-Lafont, who write on the pathology of the stomach. The studies are detailed and as far as your reviewer can ascertain complete.

The authors realize the far-reaching systemic effect of local inflammations of the pharynx and throat. Thus, for example, p. 139, they say, "In the presence of an albuminuria of which the cause is not evident think always of a nasopharyngeal infection and arrange the treatment accordingly."

The classification of ulcers of the stomach is carried to the finest possible point and almost confusingly so.

These volumes should be in every complete medical library.

G. H. H.

A DIABETIC MANUAL. For the Mutual Use of Doctor and Patient. By Elliott P. Joslin, M.D., Clinical Professor of Medicine, Harvard Medical School; Consulting Physicians, Boston City Hospital; Physician to New England Deaconess Hospital. Illustrated. Third edition, thoroughly revised. Lea and Febiger. Philadelphia and New York. 1924. Price, \$2.00.

The essential difficulty in the treatment of diabetes just now is to make it possible for the patient living either in a boarding house or in unsatisfactory home conditions to control his diet. This is a matter of education, but the education should be both for the physician and the patient. The hospital physician who handles diabetes with a dietitian who works out his menus rarely understands outside conditions well enough to put his patients on diets that they can carry out after they leave the hospital. Therefore, for even the educated specialists in diabetes, it would

be well worth while to read such manuals as this one of Joslin's.

G. H. H.

FIGHTING FOES TOO SMALL TO SEE. By Joseph McFarland, M. D., Sc. D., professor of pathology in the Medical Department of the University of Pennsylvania. Illustrated with sixty-four engravings. Philadelphia. F. A. Davis Company. 1924.

The well-known experience of the author as a writer of important textbooks on bacteriology, pathology and biology makes a popular book from him along these lines worthy of consideration. The invisible foes are of course the microbes, and their story is told in simple and untechnical fashion so that all persons can understand all they wish to know about germs. Infection, transmission, prevention and in fact the whole story of the nature and mode of attack, the dangers and the methods of defeat, are dealt with in charming literary style.

R. L. T.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

NEUTRAL ACRIFLAVINE-ABBOTT, 0.1 Gm. Ampules.—Each ampule contains 0.1 Gm. neutral acriflavine-Abbott (see New and Nonofficial Remedies, 1924, p. 24). The Abbott Laboratories, Chicago.

INSULIN-STEARNs.—A brand of insulin. For a discussion of the actions, uses and dosage, see New and Nonofficial Remedies, 1924, p. 149. Insulin-Stearns is marketed: insulin-Stearns, single strength (5 Cc. vials containing 10 units in each Cc.) and insulin-Stearns, double strength (5 Cc. vials containing 20 units in each Cc.). Frederick Stearns and Co., Detroit.

DIGALEN-ROCHE (CLOETTA).—A sterile solution containing in each Cc. 0.3 Mg. of an active derivative of digitalis as isolated by Cloetta, containing 7.5 per cent of alcohol. The actions and uses of digalen-Roche (Cloetta) are the same as those of digitalis. The average dose is from 1 to 2 Cc. (15 to 30 minims). The maximum daily dosage is 6 Cc. (90 minims). Digalen-Roche (Cloetta) is also suitable for intramuscular and intravenous injection. Intravenous injections of 1 Cc. (15 minims) may be repeated at intervals of one-half to one hour as necessary. Digalen-Roche (Cloetta) is also marketed as follows: ampules digalen-Roche (Cloetta), 1.1 Cc.; tablets digalen-Roche (Cloetta) (equivalent to digalen-Roche (Cloetta) 0.5 Cc.); hypodermic tablets digalen-Roche (Cloetta) (equivalent to digalen-Roche (Cloetta), 1 Cc.). The Hoffman-La Roche Chemical Works, New York. (*Jour. A. M. A.*, June 14, 1924, p. 1,937.)

PETROLAGAR.—A mixture composed of liquid petrolatum 65 Cc., agar 10 Gm., sugar and flavoring 2 Gm., sodium benzoate 0.1 Gm., water to make 100 Cc. Petrolagar has the actions of liquid petrolatum. It is claimed that the emulsification of the liquid petrolatum increases its efficiency, and that the agar adds soft bulk and tends to increase peristalsis. The average dose of petrolagar is 15 Cc. morning and night. Petrolagar is also marketed in the form of petrolagar (unsweetened), containing no sugar, petrolagar (with phenolphthalein), containing 0.33 Gm. phenolphthalein per 100 Cc., petrolagar (alkaline), containing milk of magnesia 25 Cc. per 100 Cc. The Deshell Laboratories, Ind., Los Angeles. (*Jour. A. M. A.*, June 28, 1924, p. 2,119.)

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

Volume XXI

St. Louis, Mo., September, 1924.

NUMBER 9

E. J. GOODWIN, M. D., EDITOR
901 Missouri Theatre Building, St. Louis, Mo.

PUBLICATION COMMITTEE { W. H. BREUER, M. D., Chairman
C. B. FRANCISCO, M. D.
M. A. BLISS, M. D.

ORIGINAL ARTICLES

STATE-WIDE PREVENTION OF DIPHTHERIA*

FRANK C. NEFF, M.D.

KANSAS CITY, MO.

At the last session of the American Medical Association held in San Francisco, 1923, this resolution was adopted:

Having passed the experimental stage and proved it is a safe and successful method for active immunization against diphtheria, the use of toxin-antitoxin by physicians in their practice is hereby recommended by the Section on Diseases of Children.

In the light of the establishment of this preventive measure and its use, especially in certain cities of this country, the time is opportune for general employment. No better time or place can be found for interesting physicians in its use than in a state association meeting such as this. Therefore we will consider briefly the simple methods of bringing this about. Let us consider the indications for rendering the population immune to diphtheria.

No community is free from diphtheria. The incidence and death rate is high in spite of antitoxin. The following table will show how the disease affects Kansas City, and what is true of Kansas City is likewise found in other communities.

DIPHTHERIA IN KANSAS CITY, 1920-1923

	Cases	Deaths
1920.....	568	44
1921.....	1,221	81
1922.....	592	61
1923.....	516	40

Children who are more or less isolated by residing in sparsely settled rural communities are probably not so much exposed to infection as the children of the cities, but their susceptibility is even greater. It has been shown that children of the crowded sections of the cities are more apt to develop a certain amount of immunity through repeated contact with carriers and ambulatory cases of diphtheria.

*Read before the Sixty-Seventh Annual Meeting, Missouri State Medical Association, Springfield, May 6, 7, 8, 1924.

Schick test observations on such individuals show fewer positive reactions than on the children in the less crowded sections of the city. When it comes to country children they are found to have more reactors among them than any other class. They have not acquired the natural antitoxin which develops from frequent contact, so that when an exposure does occur they show their susceptibility by developing the disease. The higher percentage of immunity found in older years is due not to increasing age, but to oft-repeated contact with diphtheria infection.

RURAL CHILDREN IN VERMONT (SCHICK TEST)

Age	Children Tested	Reaction		Per Cent. Positive
		Positive	Negative	
5 to 9	721	580	123	81.4
10 to 14	849	626	203	75.4

I was anxious to test not only children in the smaller cities and towns, but to find out the susceptibility in Missouri rural districts. Due to difficulties of securing permission and to the inaccessibility because of impassable roads the physicians¹ mentioned were not able to test enough country children for statistical purposes.

TOWN CHILDREN IN MISSOURI*

Age	Number Tested	Reaction		Per Cent. Positive
		Positive	Negative	
6	29	25	4	86
7	25	15	10	60
8	32	19	13	59
9	31	19	12	61
10	36	13	23	36
11	25	17	8	68
12	30	19	11	63
13	14	7	7	50
14	15	6	9	40
	237	140	97	57+

Dr. Brickhouse Wilson, of Independence, has given me figures which Dr. Atkins, health

*From 10 different towns throughout the state. One child of 9 with negative had diphtheria two years before. One child, aged 12, positive, had diphtheria three years before.

1. I wish to thank the following for making and reporting Schick tests in their communities: Dr. Martin, Kirksville; Dr. Wilson, Independence; Drs. Draper and Schofield, Warrensburg; Dr. Long, Sedalia; Dr. Oliver, Richmond; Dr. Wilson, Cameron; Dr. Montgomery, Milan; Dr. Brummall, Salisbury; Dr. Vores, Unionville; Dr. Ames, Mountain Grove; Dr. Yates, Fulton; Dr. Haw, Benton.

officer, and he have obtained in the city schools as follows:

Among 18 high school teachers, eight were positive.

In a negro grade school 66 per cent. positive Schick.

In 80 children from the Benton School, 14 had negative Schick tests.

In 106 children in Bryant School, ages from 6 to 12, only 15 children were negative.

In 69 children in Noland School, 15 were negative.

In 217 children in Columbia School, 44 children were negative.

In 192 children in O. H. School, 42 were negative.

In 212 high school children, 46 were negative, 38 refused toxin-anti-toxin and 31 did not complete three injections.

In 139 high school children, 42 had a negative Schick.

When one considers the distance from physicians, the inaccessibility of antitoxin, and the delay which often follows in the actual administration of antitoxin in the country as well as in the city, it is advisable to render the population immune, rather than to expect always reaching the developed disease in time. The writer feels that the simple injection of toxin-antitoxin is much easier and surer for the individual than taking chances with the diagnosis and sufficiently early and adequate dose of antitoxin. The public as yet confuses the passive immunization or prophylactic use of antitoxin with the newer toxin-antitoxin active immunization.

Many members of the profession have regarded the use of toxin-antitoxin as too complicated because of the earlier idea that a Schick test is an essential part of a difficult and technical method. Practically, the Schick test is unnecessary and may be omitted, except that for purposes of refinement and security in determining the establishment of immunity, it should be used as a check for definite conclusions some six to twelve months after the toxin-antitoxin has been injected.

Let us consider the methods which a community may adopt in immunizing its children:

1. The county medical society should inform the school board of the safe methods by which the school population may be rendered unsusceptible to diphtheria. When the school authorities have consented to an active campaign for diphtheria prevention, they should notify the parents that their children should be taken to their physicians who will have a supply of toxin-antitoxin in their offices. The physician may give the three doses at his office or he may visit the home so as to make it more convenient and sure that each child will be

immunized. A card is given each school child who has been given the toxin-antitoxin.

2. Families who are indifferent or indigent may be then further urged to take their children to one of the physicians in the community, or an immunization clinic may be maintained by the local health board at its office or at intervals in a school building. County nurses may be used in visiting the entire population and arranging for the visit to the immunizing station. The time has come when the local health boards and the practicing physician must make the practice of smallpox and diphtheria immunization an active procedure in each community. The number of deaths from these diseases is high and is absolutely preventable.

3. The public is indifferent to prophylactic vaccination except during an epidemic, but in the case of diphtheria a certain time should be set aside each year when these "vaccinations" should be featured by an intensive campaign.

4. Children of pre-school age will be found more susceptible than the school population in the community. By way of education a sure way of reaching the younger child at home is to have the school child made immune.

5. A concerted effort on the part of the State Medical Association, the state board of health, the county units of both the State Association and the board of health, will bring to the community the need and assistance in starting the work.

It is interesting to note that the Federal Board for Vocational Training, Washington, 1923, has recommended that every child between six months and six years should be immunized with toxin-antitoxin and every child in the public schools between six and fifteen years should be given the Schick test. If the school authorities will get behind the work for the prevention of diphtheria its success is assured.

Park states that the success or failure in getting a favorable response from the children or their parents depends largely on the interest which the school principals and the teachers take. With their co-operation consent is obtained from three-fourths of the parents.

At Swope Settlement, in Kansas City, we have a permission blank which is signed by the parents.

The State Department of Health can be of great help in sending information to each grade school in the state and if possible a worker into each county to assist in mobilizing the school children. The law of 1921 provides for county superintendents who are agents of the state board of health.

SUMMARY

1. Susceptibility to diphtheria is greater in the rural districts.

2. Lasting immunity is safely and easily obtained by injection of toxin-antitoxin, only a small percentage failing to develop immunity.

3. Active efforts should be made each year in all counties of the state to immunize the children.

4. The local medical society and the board of health should be assisted by the state health board in getting the school authorities in each community to plan for the immunizing of all the school population.

5. The local physicians should be prepared to immunize not only the older but the pre-school children.

6. The demand for vaccination comes as much from the public as it does from the education by the physician and the time has come when the incidence and death rate from this disease can and should be greatly reduced. By an active effort the State Medical Association can do much to assist in a state-wide reduction in this disease.

7. The procedure has now been proven. We should no longer be lost in the maze of statistics, with details about the Schick test, but in each community we should educate the school authorities and parents and keep at the business of immunizing the children.

8. It is up to the regular medical practice to perform the immunization of the children in our families; if we don't, we need not complain if the work is taken over by welfare agencies and the public health administration. While we welcome the assistance these agencies will give in education and demonstration, the family physician himself is the one who should administer toxin-antitoxin.

1111 Rialto Building.

DISCUSSION

DR. ROSS HOPKINS, Jefferson City: One of the functions of the state board of health is to study the diagnosis and prevention of communicable diseases. I think it is very proper at this time to call the attention of this group of physicians to the public health laboratory for the diagnosis of communicable diseases affecting the public health. The services of this laboratory may be obtained at the present time through your deputy health commissioner in your respective communities.

In relation to the diagnosis of diphtheria, this service of the laboratory is free to rural communities particularly. The laboratory also acts as a distributing station for biological products, that they may be distributed under conditions most favorable for the physician and the patient. The toxin-antitoxin, as many of you know, is on hand for distribution by the state board of health. I can assure you that our Department of Child Hygiene has been vigorously promoting the protection of child life in this state through advocating the use of toxin-antitoxin. You know that in some communities antitoxin is kept in

refrigerators where there is no ice and where conditions are not good, in spite of the strict instructions given by the manufacturers. It is the purpose of the state board of health to keep on hand a fresh supply for distribution and it will be glad at any time to serve you in this work.

Diagnosis of diphtheria is not the only function of the laboratory of the state board of health. It will be glad to investigate typhoid, malaria, tuberculosis, rabies, or any other disease which may be detrimental to the public health.

DR. JOHN ZAHORSKY, St. Louis: I think Doctor Neff has well expounded this new doctrine and has put emphasis on the point that should be emphasized, and that is that the practitioner must do the work. He should not be slow in adopting this and see that his own patients are immunized; otherwise very soon the board of health will take up the subject.

That leads me to speak especially of the work in private practice. I think I have injected several hundred children and I want to speak briefly of our experience. In the first place, in the Schick test we must have fresh toxins. Do not make the test if you are not sure of the toxin. If there is any doubt, re-test them. In fact, I believe in re-testing them once or twice if they are negative before you pronounce them definitely negative. I have had a few unfortunate experiences in this way. Children who were pronounced negative subsequently had diphtheria and we knew of no reason unless the toxin was inert. By re-testing and watching very carefully as to the freshness of the toxin we have found a very high percentage of non-immunes.

Another point is that we have not immunized young children. We have commenced at school age because the school child is the one to bring the diseases home to the other children. If you take pains with the school child and see that he is rendered immune the chances of infection for the baby two or three years of age at home are very slight. I still do not advocate this promiscuous immunization of young children. As soon as the child starts to school he should be tested by the Schick test and if found susceptible, immunized. I think that has become standard practice and by doing that we will save many lives.

I believe these injections should be made in the summer time. It is unwise to immunize a child in the winter time when they are exposed to other infections. These injections do render the child somewhat depressed, although I have seen no serious effects, but in a few cases they seemed more susceptible to other infections. When measles, whooping cough, influenza and grippal conditions are prevalent is not a good time to inject children with toxin-antitoxin.

DR. PARK J. WHITE, St. Louis: In an experience with about 500 children in St. Louis, we have been impressed with the advantage of immunizing (by the three injections of toxin-antitoxin) children under five, doing Schick tests on children over five to determine whether they need toxin-antitoxin. Some months after the immunization of 50 children at the Cass Avenue Clinic, Schick tests were done. Eight reacted positively. The necessity of re-Schicking after the administration of toxin-antitoxin was made very clear by a child who lived near the Clinic and died of diphtheria some months following the administration of toxin-antitoxin in the usual way. If that child had been re-Schicked that death could probably have been avoided. Probably ten months to a year after the administration of toxin-antitoxin is the best time to do the Schick test.

An argument frequently used for the administration of toxin-antitoxin in summer time is that the administration of frozen toxin-antitoxin is likely to result in severe reaction. All the parents in this country seem to know about the trouble in New

England from the administration of frozen toxin-antitoxin. It happened we had three ampules of toxin-antitoxin that had been frozen solid. I talked it over with a number of men, and it was given. Absolutely no trouble resulted. It was supposed by those who investigated the condition in New England that freezing had rendered the toxin more potent. This topic is still open. Until it is fully decided it is no doubt better to immunize in the summer. The reasons Doctor Zahorsky has given are also decidedly in point.

DR. JULES M. BRADY, St. Louis: We have been giving toxinantitoxin for years in private practice and also in our institution at St. Louis and have come to the conclusion that if you really want to accomplish statewide prevention of diphtheria the time start is when the child is six months of age. Every physician who brings a child into the world should see that that baby, at six months, received three injections of toxin-antitoxin. When a child grows older the mother is liable to become careless and think it is not necessary, but, if we start with these young babies, tell the mother that if she does not have this done the child may some day be taken with croup and before she has time to get the doctor the child's life will be wiped out. Very few then will refuse it.

Dr. Neff mentioned that it would be a good idea to give injections in the home. There is something in that. You would be sure that every child is immunized. We have not carried that out in our practice. We insist that they come to the office for the simple reason that then the toxin-antitoxin can be properly cared for. If we carry it around in our satchel it is not kept at the proper temperature and it is very liable to deteriorate. This paper of Dr. Neff's is a wonderful presentation and will do a lot of good.

DR. FRANK C. NEFF (closing): As to Doctor Zahorsky's idea of limiting the work to school children,—the highest mortality in diphtheria is between two and three years of age. If antitoxin is given at from six to nine months these children are absolutely protected when they are two years of age.

As to the season for giving it, there is no question but what it would be much more desirable to give it in summer. But you will find people are away on vacations, the children are visiting, and it is hard to get them. During the epidemic is the time parents want it. I do not advocate giving it during an epidemic with the promise that it will protect them in that epidemic. In fact, you must state that it will not and if the child develops diphtheria it may be given antitoxin as usual, and then later on a second course of toxin-antitoxin be administered.

I am sure the laboratory renders a great service to the state, but when it comes to assistance in the diagnosis of diphtheria many physicians are too far away for it to be of help because diagnosis must be made at once and we cannot wait for a culture.

Boston in June, 1922. Our own experience began in October of the same year. The points discussed here as regards the practical use of insulin have been deduced from one year and a half of experience with this gland extract.

Administration of Insulin.—Insulin must be given either subcutaneously or intravenously. There is no question but that the nature of insulin is protein-like. It is readily destroyed by digestive ferments both in the test tube and in the intestinal tract of animals. Because of this necessity for the use of the needle in the administration of insulin it is desirable to eliminate unnecessary injections. It has been our effort to find out if possible the best time to give insulin and the least number of injections that should be given.

There are certain facts which govern the administration of insulin. First of all when insulin is given to the fasting individual, the blood sugar reaches its lowest level in ninety minutes. If the individual has had food the blood sugar reaches its lowest level in about three to six hours. Insulin reactions are usually seen two to three hours after injection; this fact helps to eliminate pseudo-reactions. Insulin reactions cannot occur later than five hours after the injection. The effect of insulin on the carbohydrate metabolism lasts for about eight hours. The time for the administration of insulin depends on how the sugar-forming food is apportioned in the meals and it is both theoretically and practically advantageous to follow an injection of insulin by most of the carbohydrate that the patient is to receive in the twenty-four hours. By this means we have found it possible to limit the insulin injections to one a day where the diabetic condition is so mild that it does not require more than twenty-five units a day to keep the patient sugar-free. Under these conditions our scheme is to give the insulin injection at ten to eleven a. m. The noon meal following the injection should contain one-half to two-thirds of the sugar and starch containing foods that the patient is receiving in twenty-four hours. Preceding this meal two hours with the insulin injection gives the insulin time to attain its maximum effect at the same time the carbohydrate is being actively absorbed. If one administers the insulin at the same time that food is being taken the food will be digested and there will occur a hyperglycemia before the insulin has time to attain its maximum effect.

In the more severe cases, requiring more than 25 units of insulin a day, we have found it necessary to give more than one injection to control glycosuria. Two injections should be given for 24-hour doses between twenty-five and forty units; three injections when more

PRACTICAL SUGGESTIONS IN THE USE OF INSULIN*

From the Department of Internal Medicine, Washington University School of Medicine

W. H. OLMSTED, M.D.

ST. LOUIS

The Toronto discoverers of insulin began using it clinically in the spring of 1922. Outside of Toronto, Joslin began using insulin in

*Read before the Sixty-Seventh Annual Meeting, Missouri State Medical Association, Springfield, May 6, 7, 8, 1924.

than fifty units is necessary. Under these conditions the breakfast, as in the case of the milder diabetic, is kept very low in carbohydrate—not over ten grams being given. The noon and night meals each contain 45 per cent. of the daily carbohydrate allowance. The first injection of insulin is given much earlier than in the case where only one dose is administered, namely at 8 a. m. The reason for this is that, in the more severe diabetic, there occurs a morning glycosuria and the earlier we can administer the first dose of insulin the better. This is not so true for the milder case. The second dose should be administered eight hours later and preceding the night meal by two hours. Where a third dose is necessary, this may be given at 10 p. m. The insulin dosage, when more than one dose is given, should be arranged so that the morning dose is much the larger; for example, if sixty units be required, give thirty at 8 a. m., twenty at 4 p. m., and ten at 10 p. m. When fifty units a day is required one may give thirty units at 8 a. m., and 20 at 4 p. m.

As regards glycosuria where insulin is administered, we feel that it is just as important as before insulin was discovered to keep the patient sugar free and control hyperglycemia. Particularly is this true in the mild and moderately severe cases. In the very severe diabetic, to whom one must give fifty or sixty units a day to control the disease even on a low diet, it is not so necessary to keep the patient absolutely sugar free. As a matter of fact, it is most difficult to keep the night urine or the early morning urine from containing some sugar. However, it is absolutely essential that during the day and up to bed time the patient remain sugar free.

We have not found it necessary in uncomplicated cases of diabetes to administer from day to day more than sixty units in twenty-four hours. Theoretically and practically this should be enough to supply carbohydrate for even a complete diabetic. Especially is this true for the adult. It is possible that in a growing child more than this amount of insulin would be necessary.

Surgical Use of Insulin.—There is no more practical use for insulin than in the surgical diabetic. Where it is possible to delay operations for a few days, a diet of 100 gms. of carbohydrate a day gives an opportunity for glycogen to be laid down in the liver. Enough insulin to take care of this carbohydrate should be administered and the patient kept either sugar free or with less than 10 grams of glycosuria in 24 hours. This use of insulin a few days preceding operation enables a diabetic individual to store glycogen almost to the same extent as a normal person stores it. Three hours before the operation is scheduled we

give 50 grams of glucose and at the same time twenty-five units of insulin. Glucose is given in the form of lemonade, by mouth. This glucose and insulin administration three hours before operation is timed so that the glycogen formation will be active during the anesthetic and hyperglycemia prevented.

The critical time for the diabetic who has been operated upon is the first six hours after coming from the operating room. It is during this time that acidosis begins. Before we had insulin it was at the end of five or six hours that the urine and blood were examined and where there was evidence in the urine or blood of beginning acidosis sodium bicarbonate was used as an emergency method. Now that we have insulin, a moderately small dose during this period will prevent acidosis from progressing. We cannot stress too strongly the necessity for examining the urine at the end of six hours after the anesthetic has been stopped. If the patient gets through twelve hours after operation without acidosis, he is not going to have any.

The Use of Insulin in Complications.—Diabetics are particularly subject to infection. Pyogenic infections occur in the most bizarre situations in the diabetic. When infections occur metabolism is speeded up and since even the mild cases of diabetes cannot use sugar in abundance they must of necessity utilize mostly fat; thus it is that more fat is burned in infections. The patient's own production of insulin seems to fail and while this failure is often only a temporary matter, nevertheless the larger the amounts of fat being burned and the patient's own insulin output being decreased, acidosis may set in even in the mildest diabetic. One must expect to increase the insulin during infection; in fact, two or three times the usual dose of insulin may be required during the period of infection.

Another common accident in the diabetic is cerebral hemorrhage. Here again, in our experience, more insulin is required than before hemorrhage occurred. For some reason any injury or insult to the brain has an influence on insulin production. After a stroke of paralysis large amounts of sugar appear in the urine and it is necessary to administer more than the usual dose of insulin to control glycosuria and we may even expect to double or treble the dose which was necessary to keep the patient sugar free before the hemorrhage occurred. Nephritis, when it complicates diabetes, does not require more insulin, but, as has been noted since the early days of medicine, when nephritis complicates diabetes the diabetic condition presumably improves. Nevertheless, it is useful to give as high carbohydrate diet as possible in the instance of complicating nephritis. Even if the case is one

which under ordinary circumstances would not require insulin, with nephritis one can logically give insulin in order to increase to a high level the carbohydrate in the diet.

Does Insulin Cure Diabetes?—At present this question is to be answered in the negative. Joslin has as yet to see a case of diabetes cured, and my experience has been the same. The advent of insulin did not decrease to any degree the importance of diet for the diabetic. He must still diet. Insulin is not so remarkable a remedy when one remembers that it requires about eight units of insulin to burn up the starch in one slice of bread. Great improvement has been noted in cases taking insulin. It is a delightful experience to see an older patient, who, while in the hospital, requires perhaps forty units of insulin a day, be able to reduce that dose to half after following the diet rigidly for a few months. We have seen this happen several times. I should like to emphasize that this improvement occurs in the older diabetic who has passed forty years of age and in those who are extremely conscientious in rigidly following their diets. In the very young patients, who have the disease in a severe form, we have as yet seen no improvement. Not only must such a diabetic take the same dose of insulin after months of treatment, but in not a few cases we have deemed it necessary to increase this amount of insulin.

The Danger of Insulin.—Danger from insulin reactions, that is, hypoglycemia following insulin administration, in my opinion, has been considerably exaggerated. I have seen very little danger ensuing from such reaction. There is hardly a day goes by that some patient does not have an insulin reaction, but it is such a small matter to administer a little orange juice or a half a slice of bread that very little attention is paid to such reactions. They are serviceable though in showing at what time the insulin is having its greatest effect and when reactions occur we usually readjust the size of the dose.

The real danger from insulin is the danger of fat. In the type of patients we spoke of above—a very severe case, requiring a large dose of insulin—there is a distinct tendency to gain in weight and it is not uncommon to see a patient weighing 80 lbs. gain with insulin to 120 or 130 lbs., or even possibly double their former weight. In other words, large amounts of fat are laid down in the body. With this accumulation of fat there is no increase in the patient's own output of insulin. In other words, he is more dependent than ever upon the administration of insulin. Under these conditions, let some accident happen, such as any pyogenic infection, a gastro-intestinal upset with persistent vomiting, diarrhea,

etc., severe acidosis may be precipitated. In a very few hours there is a vicious circle set up. Infection increases the fat burned and increasing the amount of fat burned unless counteracted by larger doses of insulin brings about acidosis. Acidosis in itself induces an increased metabolism with more fat being burned. It has been my experience to see children go from normal diabetic state to one of diabetic coma in a period of eight hours. Before we had insulin such cases would be so undernourished that there would not be sufficient fat available to be the source of a great amount of acetone bodies. It is my conviction that the danger of insulin lies in the gaining of excessive weight. We must keep our diabetics under weight. This is not a very easy matter because, with insulin, patients are able to satisfy longings and then, too, our diabetic diets are high in fat. Under nutrition is still as valuable to the diabetic as before the advent of insulin.

Extreme degrees of under nutrition are as undesirable as over weight. The middle of the road is without question the best place for the diabetic and this, as Joslin has pointed out, should be ten per cent. below the normal weight for the patient's height.

I should like to emphasize again that whenever patients are requiring large doses of insulin, any accident or infection is apt to decrease the patient's own insulin production with the result of greater glycosuria. One must expect to give huge doses of insulin at such times to keep patients from acidosis. In addition to this latter point, I should like to emphasize two others; first, that carefully well balanced diets are more important than ever before; second, that under nutrition still plays an important role in avoiding acidosis.

Wall Building.

DISCUSSION

DR. DONALD R. BLACK, Kansas City: In the past year and a half I have read quite a number of articles supposed to be practical hints on the administration of insulin; but I do not think I have read or heard an article that was as entirely conclusive as Doctor Olmsted's paper. I think there is nothing that can be added to any phase of the subject.

I want to mention one particular phase—I think I wrote Doctor Olmsted a few months ago about this case. It was a rather large woman about 40 years of age who developed diabetic coma rather suddenly—in about five or six hours. This patient was taken into the hospital and insulin administered by the ordinary method of procedure and the result seemed to be rather striking. However, in a couple of weeks this patient began to lose tolerance again. She came to the hospital eight months ago and since that time she has been receiving over 100 units a day. She was kept on an extremely low diet most of the time, about 10 to 15 carbohydrates to 750 or 800 calories.

That brings out an important point that I do not think the Doctor mentioned, and that is in the temperament of a lot of these individuals. It is next

to impossible to carry out the procedure from a scientific standpoint when we consider the nervous disposition of most of these diabetics. They lose hope and faith in everything and just naturally blow up if they do not have a lot more to eat than accurate diet would suggest. So we eventually put these patients on a diet—in the case of the patient I have just mentioned we put her on 50 grammes of carbohydrate and about 1,500 calories. She still requires about the same amount of insulin. Curiously enough, her blood sugar in the morning will run 300 to 400. That has been a stable figure for eight months. She certainly gets more insulin than required for her diet even if she were a total diabetic.

As regards the treatment of some of the complications of diabetes, those that we usually see are gangrene, perforating ulcer, and things of that kind. These lesions always occur near the age when we would expect some such type of lesion, disregarding diabetes. We see quite a few ulcers and gangrenes occurring in the years between 45 to 50 in which I really think diabetes plays a rather unimportant role. True, we have a certain response to insulin therapy, but I question the idea that diabetes is the causative factor of these things in general.

One point we should emphasize a little is diabetes occurring in elderly individuals. There are two types—the man of 55 or 60 who comes in saying he has had a little sugar in his urine for ten or fifteen years and someone has told him that it is extremely dangerous, so he comes for advice. There are two ways to look at his man. He has had sugar for ten or fifteen years, weighs 180, looks well and the only thing is the sugar in his urine. You put him in a hospital and cut down his diet and get him sugar free and you may decrease his diet to the extent that you will weaken him. Keep him under observation for two or three weeks and you may entirely relieve his glycosuria but the weakening diet oftentimes produces more disability than he came in with. If left alone he may be good for another fifteen years. It is always wise to try to judge whether the patient really has a definite abnormality in total food metabolism. If he has it is all right to cut his diet down and possibly give him insulin.

The other type is associated with cardiorenal insufficiency. Some of these patients have varicose ulcers, but these cases have been covered by Doctor Olmsted in his remarks on nephritis. I want to commend the Doctor on his wonderful presentation.

DR. PARK J. WHITE, St. Louis: Dr. Olmsted's remarks have an interesting application in pediatrics. That is, the work that Doctors Marriott, Clausen and Hartmann have done at the Children's Hospital in St. Louis on athreptic infants. These infants are given glucose intravenously for the purpose of enabling them to absorb more food. It has been found that when glucose is given intravenously in combination with proper doses of insulin, thus giving not only pre-digested but pre-assimilated food, such babies do correspondingly better. This procedure must be carried on with the greatest precaution, but it has been found to be a life-saving measure in a few extreme cases.

DR. W. H. OLMSTED, closing: Doctor Black's remarks about insulin in the hospitalization of older diabetics is very much in order. It is true that you can treat older people, above 60 years, and do them more harm than good. We do not hospitalize. We do not give insulin unless the weakness is due to diabetes and the patients are under weight. The older diabetic usually has other diseases together with diabetes; almost always he has brain and cardiac disease and it is a very interesting study to separate those people whose weakness is due to diabetes from those whose weakness is due to something else. In

over 50 per cent. of cases it is due to a complicating disease.

STUDIES IN CHRONIC GOUT*

DONALD R. BLACK, M.D.

KANSAS CITY, MO.

A good many years ago the Incomparable Tod voiced the opinion that a knowledge of the real nature of gout is at the very foundation of all sound pathology and the passing years have but invested his reflection with deeper significance and something of prophetic insight. For none of us doubt that he, who would correlate the pathological groundwork with the clinical manifestations of gout, must at once be a clinical physician, a biochemist, a bacteriologist, a morbid anatomist and well may we ask, who is sufficient for all this.

In looking over the literature one is immediately struck with the rarity of gout in the United States as compared with European countries. In the Massachusetts General Hospital there were only eighty-two cases diagnosed gout among 498,018 total admissions. In the Johns Hopkins Hospital, ninety-two cases of gout were encountered among 30,871 medical admissions. In the Cook County Hospital the incidence is approximately one-third higher than in Chicago.

In attempting to explain the apparent rarity of the disease in the United States as compared with European countries some interesting possibilities are encountered. In the first place, while the etiology of gout is obscure, nevertheless certain factors play an undeniable role in the production of the disease and curiously enough these factors are not wanting in the United States. Certainly both intrinsic and extrinsic factors must be involved in the etiology.* Of the intrinsic, the most salient is the factor of heredity and, as Fuller aptly says, "From father to son its seeds are transmitted and bear fruit in exact proportion to the degree in which circumstances prove favorable to their growth."

In England, Germany and France a family history is obtainable in from fifty to sixty per cent. of the cases while in the United States, judging from statistics, heredity plays a lesser role. Garrod, Roberts and Tuff, in private patients, found an ancestral taint in from seventy-five to eighty per cent. The other twenty to twenty-five per cent. they ascribe to acquisition *de novo*. Llewellyn believes that predisposition thereto is always inherited and that the factors which we presume may produce gout are merely evocative, not causative. In other words, the primary or essential cause of gout is an inborn morbid potentiality in

*Read before the Sixty-Seventh Annual Meeting, Missouri State Medical Association, Springfield, May 6, 7, 8, 1924.

the absence of which the alleged predisposing or existing causes are impotent.

In Europe, alcohol has always assumed a role secondary to heredity in the production of gout. In America the reverse seems true. In this connection it is interesting to note that of a large number of persons given to exactly those alcoholic and dietetic excesses that we assume may create the disorder, not one may develop gout, while others, who lead literally a sober and moderate life, may become afflicted. It is a little difficult to escape the conviction that in gout breed is stronger than pasture.

It seems clear, in the light of present knowledge, that foods rich in purines predispose to gout. In fact, the increased incidence of gout in Germany during the twenty years preceding the war is explained by some on a basis of rich food supply, especially meat, made possible by increased prosperity of the nation. During and since the food blockade in 1914 the incidence of gout in Germany is almost nil.

The presumption that gout is largely heredity gathers weight when we recall that its metabolic eccentricities relate to nuclein rather than protein metabolism and, as Walker Hall points out, "The presence of marked iron phosphorus and certain forms of fat in the cell nucleus strengthens this view and thus we are led to recognize the important part played by the nuclein heredity in cellular exchanges." Assuming that gout is purely hereditary, what is the nature of the morbid potentiality transmitted. Some define it as an inborn defect or alteration of protein or nucleoprotein metabolism. I would by preference ascribe it to inherent instability thereof. Instability predicates excessive response to normal stimuli and judged clinically this is the salient characteristic of the gouty. In a word, "hypersensitivity." We will not attempt to include gout in the already over-padded list of diseases due to allergy, but certainly Llewellyn's idea is fascinating, especially when one considers the vast amount of experimental work on the nature of asthma, in the light of the traditional kinship of the manifestations and peculiarities of asthma and gout.

Undoubtedly many cases of gout go unrecognized; this, of course, applies to the irregular and not to the regular type of the disease. Many medical students graduate without having seen a case of gout in which typical tophi are present. They are, of course, perfectly familiar with Seydenham's classical description of acute gout but have not had the opportunity of associating this description with concrete cases. The reason for this is in all likelihood to be found, first, in the rarity of the disease, and, second, to the infrequency of the tophi in definite cases of gout.

It is quite possible that, with the more gen-

eral application of blood chemistry to cases of acute and chronic joint affections, especially in those in which none of the common causative factors are present, the incidence of gout will show a decided increase. Normally, uric acid is always present in the blood. When all the precursors of uric acid are eliminated from the diet it is still present in almost constant quantities. At the same time, it is possible to feed large amounts of uric acid producing foods without increasing materially the uric acid level in the blood, the normal blood uric acid level being 2.5 to 3.5 mg. per 100 c.c. blood. Until recently it was thought that uric acid was derived entirely from proteins. It is, however, known at present that the purine bases constitute the sole source of uric acid. Uric acid is formed from the breaking down of adenin and guanin. These purine bodies form a part of the complex nucleic acid which exists in every cell. Nucleic acid occurs as simple mononucleotids and as complex tetranucleotids. Each mononucleotid contains a base, a sugar and phosphoric acid. The principal difference between plant and animal nucleic acid is in the structure of the sugar molecule, the former being a pentose while in the latter a hexose is present.

The complex nucleic acid of the cell taken as food is split by the juices of the small intestine into its simple nucleic acids: one of these contains adenin and one guanin. It is probable that adenin and guanin pass into the circulation as nucleotids or simple nucleic acids, each bound to a molecule of phosphorus and sugar. If the phosphorus is split off the resulting nucleotid plus its molecule of sugar is called a nucleosid. Recent studies indicate that deaminizing ferments convert adenin and guanin by removing NH_2 mol. into hypoxanthin and xanthin, leaving the nucleosid structure intact, at any rate. Further oxidation converts these xypurines into uric acid. In lower animals the uric acid is oxidized but in man and in the apes uric acid is the end product of purine metabolism. These various chemical changes are produced by a number or series of specific ferments, that is, nucleases, desamidases and oxidases. These ferments are found generally throughout the body tissues of man except uricase, the ferment which destroys uric acid, which is only found in lower animals.

When a person is on a purine-free diet over a given length of time the endogenous uric acid output in the urine is constant, varying from .3 to .6 gm. in twenty-four hours, while definite increases in the urinary uric acid can be produced by a meal rich in purines, that is, sweetbreads. The blood uric acid behaves in the same manner. The blood uric acid is always elevated in gout in general, ranging from

5 to 8 mg. per 100 c.c. of blood; however, this increase is not confined to gout. Blood uric acid is almost always increased in nephritis, also in arthritis deformans, chronic lead poisoning, leukemias, malignant disease and in certain acute infections, notably lobar pneumonia. In most of these conditions, urea and non-protein nitrogen are also increased. Especially is this true in nephritis, while in gout, uncomplicated with kidney lesions, there is no increase in urea or non-protein nitrogen. Injection of uric acid is followed by increased blood uric acid levels in both non-gouty and gouty individuals. In non-gouty persons the elevation of blood uric acid subsides to normal in from thirty-six to forty-eight hours, while in gouty persons the increase is noted as late as sixty to seventy-two hours following injection. The popular idea that the urine is loaded with uric acid in gout, of course, has no basis; in fact, there is a diminished excretion as compared with normal individuals. Quoting Pratt: "After feeding food rich in purines or after injecting uric acid direct into the blood stream, there is a definite diminution in the excretion of uric acid in gouty individuals as compared with non-gouty persons; however, this phenomenon is commonly found in nephritis and arthritis deformans and possibly plays an unimportant role in the production of gout."

Tanhauser has recently endorsed the theory that gout is due to renal insufficiency for uric acid excretion. The question is left open as to whether the primary disturbance is in the kidney cells or in the nervous centers that control them. The chief support of this theory lies in the fact that in gout there is a high blood uric acid with relatively low concentration in the urine. He also distinguished between primary and secondary gout. The former presents no sign of renal insufficiency except that of uric acid excretion while the latter is the result of chronic kidney disease with consequent inability to excrete adequately any of the non-protein nitrogen elements.

Loewenhardt concludes from uric acid feeding and injection experiments in gouty and non-gouty individuals that persons with gout are able to concentrate uric acid in the urine as well as normal persons; also that uric acid is eliminated well by patients with severe kidney insufficiency. He denies the possibility that impaired kidneys play a role in the production of gout.

Not a little experimental work has been done with a view of establishing the manner in which sodium monourate is deposited in the joints after acute attacks of gout.

Charles Finch believes that during acute attacks the alkalinity of the blood is increased and that sodium monourate is precipitated in the tissues as a result of the increased alkali-

linity. He believes that the use of alkalis favors attacks and the use of small amounts of acid shortens an established attack.

Tanhauser agrees with him to the extent that he recommends large amounts of water free from alkaline salts with the idea of bringing into solution the sodium monourate combined in the body tissues and at the same time promoting excretion through the kidneys. We have attempted to produce sodium urate deposits in the joints of rabbits by injecting uric acid in large doses intravenously into the animal which had previously received injections of organisms from acute rheumatic cases. Some of these rabbits developed typical rheumatic joints but no sodium urate deposits. The experiments were repeated on rabbits with uranium nephritis with equally poor results. Of course, we had no means of determining the uricase value of the blood in these rabbits and it is quite possible that the experiment might prove more fruitful in a more appropriate animal.

We also have tried by means of uric acid injection experiments, to determine if kidneys showing evidence of insufficiency to ordinary function tests, were to any appreciable extent impermeable to uric acid. We have established the following technique: The patient presents himself at the laboratory without breakfast. Specimens of blood and urine are taken and 1 gm. uric acid dissolved in piperazine was injected intravenously, blood and urine being taken at hour intervals for four hours. In each of the ten cases with definite evidence of kidney disfunction, the blood uric acid promptly arose and with this rise in the blood there was a proportional rise in the urine. Our material has been limited and the final conclusions will be drawn later. Without uric acid no gout, has been for many years a generally accepted dictum. The exact relation of uric acid to gout is far from settled.

In the light of what has been said covering the role of the kidney in uric acid metabolism, we feel justified in establishing a diagnosis of

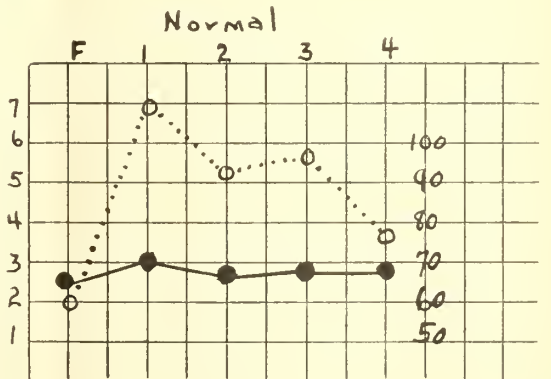


Fig. 1.

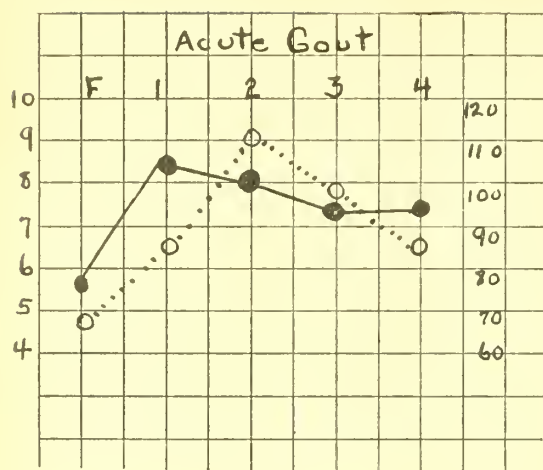


Fig. 2.

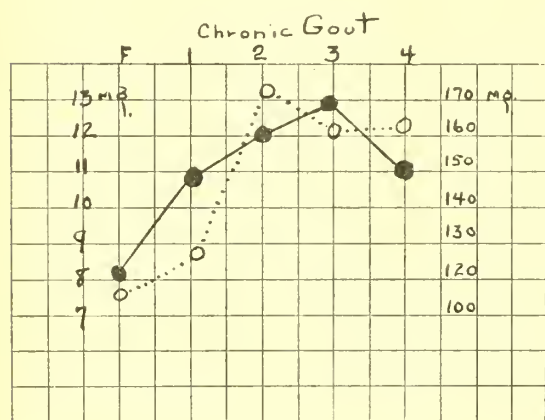


Fig. 3.

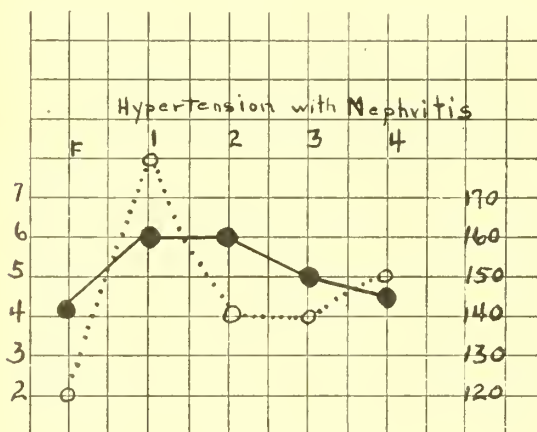


Fig. 4.

The black lines represent the blood uric acid level and the dotted lines the urine uric acid levels.

The figures at the left indicate blood uric acid in M. G. per 100 c.c. blood. Those at the right, total urine uric acid in M. G. per period between voidings, i. e., one hour.

gout, in the absence of proven sodium urate deposits, in a patient who has had one or more attacks of acute inflammation with characteris-

tics described by Seydenham and whose blood uric acid is above 5 mg. per 100 c.c. We feel with Carman that there is no positive X-ray evidence of the disease although the characteristic punched-out areas in the proximal phalanges are suggestive.

Typical Case History.—W. H. R., male, age 32. Electrician. This patient was first seen September 28, 1923. Chief complaint was painful enlargements of the joints in his hands and feet with gradual loss of weight and strength. Eleven years before he was awakened one night with intense pain in his left ankle. The pain increased in severity until morning when it subsided. During the course of the morning the ankle became swollen and red. The next night the pain became severe again only to subside toward morning. The attack lasted six days. Pain always worse at night. These attacks have persisted and up to the present time he has had about six attacks a year and they last from a few days to a month. All his toes and fingers have been involved at times and at present there is definite deformity in all his joints although no ankylosis is present. About a year ago tophi began to appear in both ears, the left ear having a deposit about 1 cm. in diameter. During the first few years of his illness he complained of some headache usually frontal in character but recently there has been no headache. There has been no shortness of breath, no palpitation and no edema at any time. Of late he occasionally gets up at night to void but this is not constant and is not troublesome. He thinks his nocturia is usually caused by the excessive drinking of fluids after dinner. He is mildly constipated, requiring a cathartic about once a week. There is no history of venereal disease. On his mother's side for four generations back arthritis has been common, in fact several of his aunts have had definite deforming arthritis. His mother was rheumatic and died of tuberculosis. There is no history of arthritis on his father's side. The patient's weight is 123 pounds, height 5 feet 8½ inches. His skin presents a normal appearance. His pupils are regular and react normally to light and accommodation. His pharynx is red and the tonsillar fauces are clear. Tonsillectomy four years ago. There is one devitalized tooth. There is general glandular enlargement, his post-cervical, epitrochlear and inguinal glands being palpable. The heart is not enlarged and there are no murmurs. The rhythm is regular and the sounds clear and distinct. Blood pressure S 140/D 96. There is slight retraction above both clavicles but no tenderness or spasm. The breath sounds are normal. No rales present. Percussion is normal. The abdomen is entirely negative. His deep and superficial reflexes are normal. All the joints of his fingers and toes are enlarged but there is no ankylosis. His left wrist is somewhat swollen and red and slightly tender. His temperature is 99 and pulse 88. The X-ray picture and report of Dr. G. E. Knappenberger is as follows: The etched out areas in the metatarsophalangeal articulations suggest chronic gout.

He was admitted to Bell Memorial Hospital November 30, 1923. Urinalysis: Amber, Sp. G. 1006. Albumen negative, sugar negative, acetone and diacetic acid negative, sediment contained numerous amorphous urates. Blood count: Hae. 92 per cent. by Dare, R. B. C., 4,860,000. W. B. C., 7,800. Polys. 67. L. L. 4. S. L. 23. Trans 6. Blood chemistry: B. U. N. 27.09 mg. Creatinine 1.9 mg. Uric acid 8 mg. per 100 c.c. His Wassermann reaction had varied on several occasions from two plus to four plus.

The patient was placed on a purine free diet and his chemistry, December 1, at the hospital was as

follows: B. S. 105. Creatinine 1.8. Uric acid 8. Chl. 440. CO₂ 38.1 vol. per cent. He was given 25 mg. creatinine and 1 c.c. phenolsulphonephthalein intravenously in the morning before breakfast, the urine and blood being taken before the injections and at one hour intervals for two hours following.

	Amount	Sp. G.	Creat. in mg.	Creat. total	Phthalein
Fasting....	116 c.c.	1.014	69	80	
1st hour....	158 c.c.	1.013	100	158	22.5%
2nd hour...	212 c.c.	1.010	65	138	7.5%

He was left on a purin free diet and no medication. His blood uric acid and urinary uric acid were made daily:

11-1-23	BUN 32.92	12-1-23	Off diet—
	Uric acid 6.1		atophan
11-2-23	BUN 32.92		BUN 26.82
	Uric acid 6.1		Uric acid 4.6
11-3-23	BUN 44.82	12-15-23	BUN 22.8
	Uric acid 5.8		Uric acid 4.1
11-4-23	BUN 32.22	1-2-24	BUN 22.8
	Uric acid 6.1		Uric acid 4.2
11-5-23	BUN 32.22	1-26-24	BUN 18.01
	Uric acid 4.8		Uric acid 4.0
11-7-23	BUN 43.4	2-12-24	BUN 18.01
	Uric acid 4.8		Uric acid 4.6
11-9-23	BUN 40.63	2-28-24	BUN 16.80
	Uric acid 5.4		Uric acid 5.0
3-20-23	BUN 16.80	3-20-25	BUN 16.80
	Uric acid 4.6		Uric acid 4.8
11-18-23	BUN 24.60	4-20-23	BUN 18.01
	Uric acid 4.4		Uric acid 5.2

This patient has had two attacks of acute arthritis since he has been on treatment. The first occurred two weeks after he had gone on a rigid milk diet. His uric acid during the first of the attack mounted to 8.2 mg. per 100 c.c. His output of uric acid during and after the attack has been within normal limits. His other attack began while he was on a definite purin free diet. This attack was not severe and his blood uric acid only mounted to 6.4 mg., his urinary output being normal.

We have felt justified in diagnosing a mild productive nephritis in this patient because his kidney function tests have been repeatedly low. His blood urea has been high and his urine usually contains albumen and casts. His blood pressure is slightly increased. A striking point in this connection is the fact that his ability to concentrate uric acid in his urine has been unimpaired.

In this patient the uric acid level in the blood in no way influences attacks of arthritis, neither does diet. We have had definite success in controlling the attacks with atophan by mouth and sodium salicylate intravenously. We are unable to throw any light on the relation of uric acid metabolism to clinical gout and fully agree with those who consider that the factor or factors predisposing to the disease lie beyond the mere metabolism of uric acid.

713 Lathrop Building.

DISCUSSION

DR. W. H. OLMSTED, St. Louis: I think we must compliment the author on his splendid paper, particularly because gout is not so common, as he said, and when it does occur it is often overlooked. Gout is something that should always be considered in a case of deforming arthritis.

THE TREATMENT OF INFECTIONS OF THE TERMINAL PHALANGES OF THE HAND

From the Surgical Clinic of the Washington University Dispensary

J. G. PROBSTEIN, M.D.

and

H. S. BROOKES, JR., M.D.

ST. LOUIS

Any one working in a large out-patient clinic where many ambulatory cases are treated, is constantly impressed with the large number of patients suffering with infections of the fingers and he is struck with the long period of disability which frequently results. We feel that many of these cases are regarded as trivial and are inadequately treated. Our idea is not to advance any new method of treatment but to emphasize the frequent necessity for more radical measures and the importance of considering them real surgical problems, as has been pointed out so ably by Kanavel in his "Infections of the Hand." Infections of the terminal phalanges are among the most frequent infections seen, particularly in the class of patients coming to a dispensary, most of whom are presumably wage-earners, and it is with infections of this type that we are particularly interested.

When a patient seeks help for an infected finger one can be reasonably sure that some real trouble exists, and it is a rare case that has not been tampered with at home and either neglected or maltreated. For such neglect the patient has only himself to blame, but not infrequently the doctor first consulted has continued to temporize and the infection has made much progress and caused irreparable damage before any adequate attempt has been made to check it. Having had occasion to see the results of such treatment on the one hand and the very satisfactory results of proper treatment when instituted early on the other, we feel that more of these cases should recover without permanent impairment and with a minimum loss of time.

Almost invariably there is a history of trauma of some sort, but even in the cases without such a history we know that the infection is introduced from the outside. Trivial injuries may pass unnoticed, such as pin-pricks, scratches and the innumerable injuries to the

fingers among the laboring people of all sorts. It is often only when the usual signs and symptoms of inflammation develop that the attention is attracted to such injuries.

Patients resort to compresses and poultices of all sorts and other home remedies in an effort to secure drainage and relieve pain; only, as a rule, to aggravate the condition and make it worse. When medical advice is finally sought the treatment is very often inadequate and it is at this point where it is so important to institute satisfactory drainage. This is very often, practically always in fact, impossible without an anesthetic and should not be attempted without anesthesia¹. The gas machine is one of the most valuable aids in treatment of infections of the hand and all such cases should be considered distinctly surgical.

Among the cases which have been reviewed the following is a fair example as illustrating the result in a badly treated one.

C. W. 8035. Male, age 49. Admitted to the dispensary 5-17-15 with a diagnosis of infection of the finger. He had scratched the 4th finger (left) two weeks previously and paid no attention to it at the time of injury. Four days later the finger became swollen and very painful and two days after this a pustule formed which the patient opened with a pin, squeezing out a small amount of pus. The pain and swelling increased, he developed a fever and noticed red lines extending up the arm. He was disabled and frightened and finally sought medical advice. His doctor made an incision in the finger without an anesthetic but the condition then became very rapidly worse. The entire finger became red, tender and swollen, the patient had chills and fever, and his doctor again attempted to secure drainage by further incision without anesthesia. He was finally sent to the dispensary by his doctor when the condition showed no evidence of subsiding. At this time the finger was greatly swollen. There was a marked lymphangitis and axillary lymphadenitis. Under gas anesthesia and with a tourniquet applied, the original incision was enlarged, a considerable amount of thick pus evacuated and the terminal phalanx was found denuded and roughened.

An effort was made to avoid injury to the tendon sheath but the infection had evidently involved the tendons and a few days later a palmar abscess was opened and drained. The flexor tendons subsequently sloughed and when the wound finally healed the finger was stiff and useless. It was subsequently amputated.

Here then was a man who was almost completely disabled for a period of about three months and who eventually lost a finger when in all probability, if he had been taken care of properly in the beginning, would have been spared the suffering, risk and loss of time, not to mention the loss of a finger. This is not a very unusual story.

We have made it almost an invariable rule that when operation is decided upon in these cases, the patient be given a general anesthetic so that the finger may be thoroughly explored

if necessary and radically opened, thereby avoiding in most cases further operations and possible deformities.

One of the most important questions that must be decided before operation is whether or not the infection is definitely localized or walled off, so that, if incision is made, the infection is not carried into healthy tissue. It is much worse to do this than to leave the finger alone at this particular time when nature is making an effort to localize the process.

If we are uncertain as to whether the infection has become localized and there are no evidences of a spreading infection, we treat the finger conservatively with hot packs, and have the patient return for observation from day to day. When it is decided that operation is indicated the following technique is usually carried out:

First we locate the point of fluctuation if possible. The patient is placed on a table, the hand cleansed and a tourniquet is applied, gas anesthesia being used. This tourniquet is a very important step in the operation because it keeps the field free from blood and we are able to distinguish the limits of the infected area. In this way we can more readily avoid carrying the infection into healthy tissues, especially the tendon sheaths, where irreparable damage may be produced. When tendons are involved they almost invariably slough, leaving a stiff finger which may be restored to function by plastic measures but more often comes to amputation. There is, however, more pathology that may result from improper treatment. It takes a very short space of time with inadequate drainage of an infected finger to produce an osteomyelitis of phalanges.

An osteomyelitis may exist alone but many times becomes associated with a tenosynovitis and suppurative arthritis. The usual history of such a neglected case is one which started as an ordinary subcutaneous infection followed by a tenosynovitis-osteomyelitis and eventually is suppurative arthritis.

The end results of neglected treatment are many and most unsatisfactory, amongst them being atrophies and contractures of fingers causing great deformity of hands interfering in many ways with the wage earner's ability to make a living. Stiff and ankylosed joints of fingers is another result which cause no less trouble and lastly the misfortune of losing an entire finger.

For proper exposure and adequate drainage we find the inverted U incision is most satisfactory when the infection is confined to a distal phalanx. It gives a splendid exposure of the terminal phalanx and when healed it does not impair the tactile sense, nor does it leave a painful scar. A rubber tissue drain is placed through the wound, the tourniquet is removed

1. Mook-Kanavel's Infection of the Hand.

and bleeding points controlled, if necessary. Hot wet dressings are applied until the acute symptoms have subsided.

Where the infection is proximal to the distal phalanx, lateral incisions are made and through and through drainage established, care being taken to avoid injury to the tendon sheath. When this method of treatment is employed early enough it is almost always possible to arrest the infection and prompt healing is the rule rather than the exception. The post-operative care is of as great importance as the operative procedure. Aside from drainage an important factor in all finger infections is the early restoration of motion of the tendon in their sheaths, a great factor in the end result irrespective of whether or not they have been primarily involved.

From 1915 to 1922, inclusive, there were 12,168 new cases treated in the surgical department of the Washington University Clinic or Out-Patient Department. Among them 473 were admitted with the diagnosis of abscess, cellulitis, paronychia and furunculosis of the finger. This is approximately 4 per cent. of cases admitted. Of the above number about 40 per cent. had been previously treated by outside physicians before coming to the clinic. The treatment given the majority of these patients consisted in poultices of every description, hot packs and other dressings and in cases where surgery was attempted it was usually inadequate.

In not a single instance of the above cases admitted where surgery had previously been attempted was there a history of an anesthetic (general) being used.

The time lost by the average patient thus treated and then sent to the clinic was very hard to determine but a fair estimate would indicate an average minimum of four weeks' disability up to as many months in some cases.

In contrast to the case outlined above the following is an example of one having had early radical treatment.

S. S. O. 18054. 32 years old, admitted 3-19-19. Diagnosis, cellulitis of finger.

History.—10 days ago, picked two blisters which formed on thumb and index finger. The blisters were caused by friction of the handle of a hammer. The finger was greatly swollen, red and tender. He could not work and had been unable to sleep. He consulted a doctor who applied a boric pack and sent him to the Washington University Dispensary. On admission his temperature was 102°. Examination showed the skin was broken, pus was discharging from the wound. The first phalanx of index finger of the left hand was swollen, red and tender. There was a sinus discharging pus, which on examination showed staphylococcus. The X-ray was negative. A radical incision under gas anesthesia was made the same day and a rubber drain inserted through and through. A wet pack applied. The patient felt better the next day and improved until March 29. There was no permanent loss of function. The num-

ber of days under treatment was sixteen. He was able to resume some of his work on the eleventh day, making less than two weeks' loss of wage earning.

CONCLUSIONS

1. That infections of the terminal phalanges be given more recognition as real surgical problems.

2. Inadequate incisions and drainage tend only to aggravate rather than improve the condition.

3. Gas anesthesia plus a clean operative field is one of our most important assets in treating infections of finger.

4. Early restoration of function and proper post-operative care is as important as the operative treatment.

453 N. Taylor Ave.
Wall Building.

ANESTHESIA IN CARDIAC DISEASE AND ITS COMPLICATIONS

EDWIN SCHISLER, M.D.

and

E. EUGENE BROWN, M.D.

ST. LOUIS

It is the purpose in this paper to discuss briefly anesthesia in cardiac conditions. The different findings of cardiac disease will be mentioned separately and the indications and care will be discussed later. So far as the kind of anesthesia is concerned the indications are the same in whatever operation is to be performed. Great care should be exercised and strict attention given the patient before operation so as to minimize the operative risk. For discussion, the procedure has been grouped as follows:

1. A thorough clinical and laboratory study of the patient. 2. The nature and probable duration of the proposed operation. 3. The selection of a trained expert for the administration of the anesthetic. 4. The kind of anesthetic indicated. 5. Absolute quiet in the operating room.

Our object then is, by clinical study, to minimize the operative risk by examination of:

1. The heart. 2. The vasomotor and vascular systems. 3. The lungs and respiration. 4. Laboratory study, blood and urine.

It is advisable whenever possible to examine the heart with the patient standing, prone, half reclining, and at respiratory rest. Inspection should reveal the typical mitral face, the pale face of aortic disease, the pale yellowish face of infective endocarditis and the very pallid face of pericarditis. If there is cyanosis the carotids and the jugulars should be examined

and the clubbing of fingers looked for, and the size of the liver and the presence or absence of edema should be determined. Attention should be directed to the apex beat, whether it is diffuse or heaving. It is often possible by such means to detect at once, before the patient enters the operating room, whether mitral stenosis, auricular fibrillation, excessive venous engorgement, an enlarged liver, or edema is present. It must be admitted that there are cases of emergency when the time is limited for the study of cardiac condition, but usually a superficial examination should be insisted upon, if only for the completeness of your history.

In regard to palpitation, a slapping apex beat means that the muscle of the ventricle is not contracting rhythmically, pointing to the degeneration or a toxic condition of undetermined etiology. A heaving apex beat is indicative of left ventricular hypertrophy. A dual or diffuse apex beat suggests the existence of a double lesion—generally mitral. Special care should be devoted to the character of the auriculo-ventricular valve. The sound is generally shortened in any condition which interferes with the contractility of the ventricle. A systolic murmur at the apex with enlargement usually denotes leakage through the mitral valve. Here the question arises regarding functional and organic murmurs which emphasizes the importance of the proper study, and the complete history and observation for a differential diagnosis. Such with the proper care will increase the patient's chances for recovery. An accentuated aortic sound usually accompanies a high peripheral resistance and a raised blood pressure or hypertension. If it is ringing or metallic in character it means damage to the structure of the aortic valve and usually dilatation of the aorta above it and not a high peripheral resistance. The quality at the apex gives the condition of the myocardium. In aortic regurgitation the diastolic murmur should be listened for at the base, over the mid-sternal line and to the pulmonary side. The more uncertain hearts from an anesthetic standpoint are those having a profound myocardial change from toxic infection, those with marked hyperirritability and those having a definite degeneration of the myocardium. In aortic cases the vasomotor mechanism must be carefully studied, as in aortic regurgitation the systolic blood pressure is high and the diastolic low, which gives a high pulse pressure and indicates vasomotor tone.

A single urinalysis is entirely inadequate to determine operative possibilities. One examination usually is very misleading. The resulting conclusion may overrate the renal damage or on the other hand may show lack of pathological evidence. Only by repeated urinalysis

under varying conditions of diet, fluid intake, activity and medication can the observer reach any accurate conclusion.

The blood examination should not be neglected. The hemoglobin, coagulation time, red count, white count, and color index should be followed for at least a week before operation. A careful differential count should be made as long before operation as possible and a recount just before operation. In emergency cases an added risk must be taken. For example, should a patient with anemia or leukemia require immediate surgical procedure a blood examination will not avoid operation, but to observe the changes in hemoglobin, color index, white and red counts before and after operation, would be both interesting and instructive.

The anesthetist who does not give his entire attention to the anesthetized is doing an injustice to the patient, the surgeon, and himself. He should exercise special care that the patient is not unduly exposed, to avoid post-anesthetic pulmonary complications and possibly the incidents of shock, etc. Absolute quiet in the operating room is very necessary. What is more distracting to the patient, surgeon and assistants than a general discussion on matters foreign to the operation? A careful record of all pregnant women should be had, which by far is a most neglected procedure by the general practitioner.

The blood pressure plays an important role in operative hazards. While much attention has been given increased pressure, hypotension is equally important. In such cases a deficient pulse pressure is often found but only by careful blood pressure observations. Often in cases of visceroptosis, asthenic and neurotic condition, syphilis, tuberculosis and in the various endocrin deficiencies (particularly of the thyroid, ovaries and adrenals) are found unstable vasomotor tone and numerous variable fluctuations of blood pressure. These can be classified as hypotension only after detailed study, as the pulse pressure from a clinical standpoint is of utmost importance because it shows the true peripheral resistance. Such cases with careful observation and appropriate treatment can be put into an improved condition for a general anesthetic.

Hypertension is usually considered a contraindication for general anesthesia, but if proper care is given the risk can be minimized, as the following case will demonstrate. Even though it is an isolated case it shows what can be accomplished.

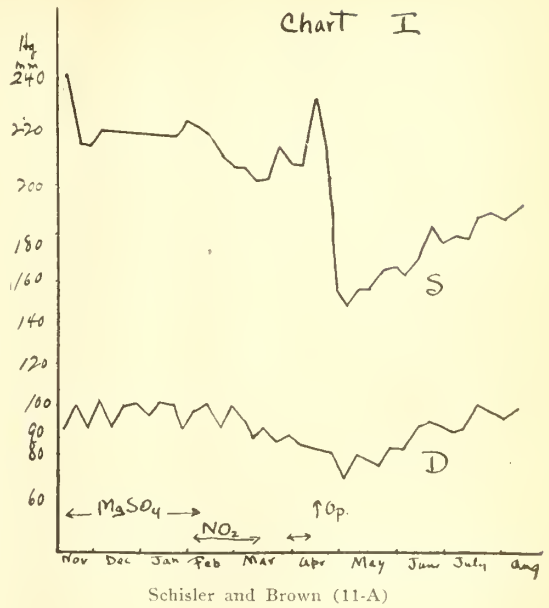
J. M. Clerk, female, aged 42, single, height 5 feet, 6¾ inches, weight 140 lbs. First seen at office November 14, 1922, with a negative family history. Her previous history included the usual diseases of childhood with no sequelae. Menses at 14, regular, 26¾ days, until present illness. Has had cardiac symptoms for the past two years, with dyspnea, pal-

pitiation, swelling of feet, more pronounced on the left side. Never had influenza, typhoid, or jaundice, no chronic cough or other serious illness. Present illness dated back about eighteen months, with culminating cardiac disturbance, including palpitation, edema and dyspnea, with a dull, steady headache, pain usually frontal, ringing and buzzing in ears. Increased leucorrhoea and menstrual flow had gradually become worse during the past year and a half. Examination showed a well developed individual, slightly emaciated and sallow, with a muddy complexion. Skin dry, T. P. R. normal. Eyes, nose, ears, and mouth were negative. Skull normal contour, scalp negative, thyroid palpable, left jugular pulse greatly increased and heaving. No adenopathy. The chest showed the lungs clear with good and equal expansion and no retraction. Breath sounds and voice sounds normal, no rales. The heart showed the outline of cardiac dullness to be 12 cm. in the sixth intercostal space, with a marked left ventricular hypertrophy and a loud systolic murmur over base and at apex, the loudest over the base and aortic area, transmitted up the neck. The blood pressure was 240/93 when first examined in 1922, the abdomen protruded in the lower portion and contained a smooth, regular, round mass about the size of a grape fruit. The mass was not painful, and the abdomen was otherwise negative. When admitted to the hospital the patient was complaining of a rapidly growing mass in the lower abdomen, which was slightly irregular and the size of a seven month's pregnancy. This mass extended from the pelvis to three fingers above the umbilical level, or 21 cm. above the symphysis. Vaginal examination showed the external genitalia normal. There was a moderate muco-epithelial discharge, with a conical cervix, which was firm and moveable. There was a large tumor mass which had seemingly developed in the anterior wall, with some hardening and irregularities in the posterior wall in the cul-de-sac. Rectal examination showed the sphincter tone good, with slight hemorrhoidal dilatation and a mass pressing on the rectum. Extremities were negative, tibia regular and all reflexes normal; no clonus. Urine was pale yellow, acid, sp. gr. 1.026, very faint trace of albumin, sugar negative, indican+, very faint trace of bile, sediment moderate PO_4 , heavy epithelium, 6 to 8 mixed casts to field, no pus cells, and slight mucous. The blood coagulated in $3\frac{1}{2}$ minutes, hemoglobin 80 per cent, red blood corpuscles 4,750,000, white blood corpuscles 11,000, polymorphs 58 per cent, large mononuclears 8 per cent. The tentative diagnosis was chronic cardiac disease with valvular lesion, aortic regurgitation with hypertrophy, chronic interstitial nephritis, hypertension and uterine fibroid. Malignancy(?) Pathological report, adenomyoma.

The case presented itself as one of, 1. Hypertension. 2. Cardiac valvular disease. 3. Nephritis with edema, albuminuria and casts. 4. Uterine fibromata, which demanded surgical interference.

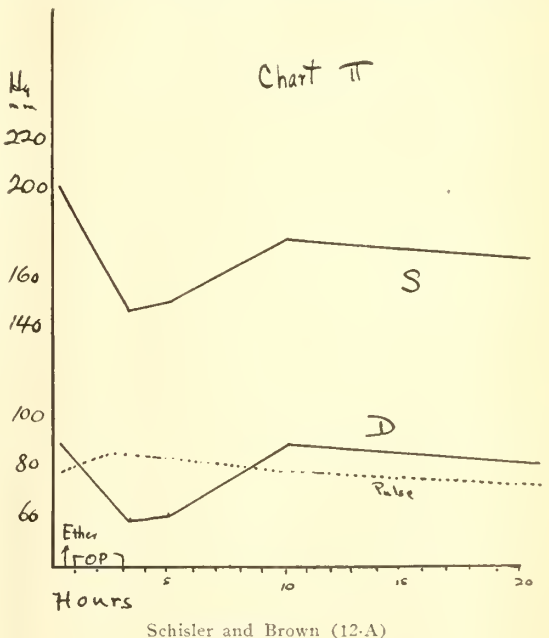
In the face of these rather serious complications, the operation was performed and the course of the marked improvement of the patient is well illustrated by Chart I.

Under medicinal treatment (magn. sulph.) and close restriction of the sodium chloride intake, diet, etc., the blood pressure fell to an average level of 215/100 where it remained from December 6, 1922, to February 1, 1923. At this time nitrates were added to medication and the blood pressure gradually fell to



195/88 in six weeks, then the pressure began to increase irregularly when nitrates were omitted, until 230/115 was reached just after the patient entered the hospital. Nitrates were again given and at the time of the operation it had again fallen to 203/90. After operation it fell to 142/68 in a period of two weeks. The following month the pressure was fairly steady, varying between 148 and 158 systolic, and an average diastolic of 80. One of the most interesting phases in the behavior of the blood pressure during operation is shown in the following Chart II.

During operation the pulse was steady, 82 to 90, blood pressure fell from 200 to 148,



gradually rising during the day to 180 at 6 p. m., following which there was a gradual reduction during the next two weeks to 142 as Chart No. 1 shows. The heart lesions showed no adverse changes. In fact the general action was less labored and signs of tension were relieved. The kidneys underwent no exacerbation of the chronic interstitial condition.

An interesting feature of the case is the fact that the ether anesthetic and operative procedure were accompanied by a decided fall in blood pressure. The convalescence was uneventful.

SUMMARY.

1. The chronicity and type of a nephritis, not albuminuria, or the presence of casts, are the determining factors in operative risk.

2. Severe valvular lesions with hypertrophy, even though accompanied by hypertension, carefully observed does not always contraindicate a general anesthesia.

3. Hypertension was reduced during anesthesia without a subsequent increase.

4. A tumor mass may be an important factor in the production of hypertension.

5. A careful and complete study of cases will decrease the number of inoperative cases.

6. Thorough examination and observation will make for a more accurate estimation of surgical risks.

333 University Club Building.
4380 Olive Street.

HAY FEVER*

CHARLES H. EYERMANN, M.D.

ST. LOUIS

Annually, from the month of May to the first severe frost, about one million people in the United States suffer with uncontrollable explosive attacks of sneezing, an intolerable itching of the eyes and a more or less running nose. Such is hay fever, also termed rose cold and rose fever, summer catarrh, autumnal catarrh, catarrhus aestivus, periodical coryza and by many termed just a bad "head cold." It is no respecter of age, persons or station in life, but superficially it appears that it is seen more frequently among the educated and highly nervous and to have a predilection for women. To these million sufferers it is as inevitable as death and taxes that these symptoms will recur at about the same time and some even believe at the same hour each year, unless some curative measures are undertaken.

The symptoms of hay fever have been known for many years. As early as 1565 a medical

writer mentioned patients with itching of the nose and sneezing from the odor of roses and during the next century several medical writers made mention of patients with catarrh and asthma, usually as medical curiosities, occurring at the time of the blooming of roses. As a definite clinical entity hay fever exists in medical literature since 1819 when John Bostock, an English physician, described the symptoms in detail. Some years later Bostock, using the name of summer catarrh, again wrote a detailed account of the affliction and mentioned that the name of hay fever had been in common use for several years to describe this disease. It appears that the public at least supposed the disease to be caused by hay fields but the various writers attributed it to hot houses and the aroma of flowering grasses.

It was first suggested by John Elliotson, in 1830, that the condition did not depend on hay but on the fresh flowers of grasses and probably grass pollen. A physician, Blackley by name, who was a sufferer from hay fever, experimented on himself with the pollen of many grasses and flowers during the period between 1856 and 1877. He was able to reproduce his nasal symptoms by inhaling the pollen. Applying it to the mucous membranes of his nose and eyes he could reproduce the excessive itching of the eyes and nose with the usual sneezing and coryza. He further noted the results of rubbing the pollen into scarified skin of his arms and legs, a modification of which procedure at the present time forms the basis of ascertaining the causative pollen. In his own case he found that all pollen caused symptoms, but that the pollen of the grasses produced the symptoms in an extreme degree. He used glass plates covered with sticky fluid to demonstrate the presence of pollen in the air and observed that the intensity of his own symptoms varied as there were more or less pollen on his plates. Very little pollen was found in the air of a closed house and much more pollen was found in the air of the country than the air of the city.

Since this time the experiments of Blackley have been repeated and elaborated. Dunbar was the first to show that it was the protein constituent of pollen that caused the symptoms, so that now the relationship between the clinical symptoms of hay fever and contact with pollen and that it is the protein of pollen are firmly established.

All flowering plant have their origin from a single cell within the seed. The first cell of the new plant is the result of fusion of two entirely separate cells, the pollen grain and the egg cell, which correspond in function and to some extent in structure to the spermatozoon and ovum of the animal kingdom. The pollen grain is a cell usually almost spherical, approx-

*Public lecture delivered January 31, 1924, under the auspices of Washington University.

imately twice the size of a human red blood cell with a tough outer membrane and simple cell content.

In plants which are pollinated by insects the amount of pollen is small in comparison with the clouds of pollen thrown into the air by wind pollinated plants. By bright color of flowers, by sweet and penetrating odors, by nectar secreted deep within the flower, insects are attracted and when they fly to other flowers they carry with them their load of pollen.

In contrast, wind pollinated plants have small, numerous, inconspicuous flowers, rarely provided with nectar. These flowers produce enormous amounts of pollen, in order to allow for waste in spreading the pollen through the air. To state these facts in another way, the pollen of flowers with color and odor are insect borne, while the pollen of flowers without color and odor are wind borne. The importance of this basic principle lies in the fact that to be a potent cause of hay fever a pollen must be wind borne. Insect borne pollen will produce symptoms of hay fever only by close contact, such as directly inhaling the pollen or when in close proximity to fields of such flowers. As examples, the pollen of roses, an insect borne pollen, causes hay fever or rose fever very infrequently. Very few people have been found to be susceptible to rose pollen and in these susceptible people it will only produce the symptoms by direct inhalation. The symptoms occurring at the time the roses bloom are caused by the pollen of the various grasses. Again, goldenrod, which is popularly believed to cause hay fever, is an insect borne pollen and produces symptoms only by close or direct contact. The symptoms occurring at the time goldenrod blooms are due to the pollen of ragweed.

In this part of the United States there are three hay fever seasons. The first season, or early spring hay fever, extends from about the middle of March to the middle or last of May and in late seasons into the month of June and is due usually to the pollen of trees. About the middle of March pollen is shed by the hazelnut and witch hazel; late in March and in April by the willow, poplars, maples, birches, elms and junipers; in May by the sweet ferns and bay berries, ashes, oaks, sycamores, hickories, walnuts, elders, the various fruit trees, and late in May and early June by the pines. In many trees the flowers develop and may even go to seed before the appearance of the leaves. The flowers may be inconspicuous, as in the elms, or very prominent on long and showy catkins, as in cottonwoods and scarlet oaks. Oak, willow, poplar and maple most commonly give reactions in this vicinity.

The symptoms of this type of hay fever are rather mild and their duration depends upon

the length of the period of pollination of the various trees and upon the number of different trees to which the patient may be susceptible. Symptoms are present from three to four days to two weeks at most, unless the patient has multiple sensitization to several trees. It is not essential as a rule to institute specific treatment for this type of hay fever on account of the short duration and mildness of symptoms but in those with multiple sensitization, whose symptoms therefor are of longer duration and more severity, it should be attempted.

The next type of hay fever follows the type just described and is due to the pollen of grasses. It extends, in this vicinity, from the late May or early June to the middle of July. However, in the South this type begins much earlier and may be the cause of symptoms throughout the greater part of the year. Also, the early spring grasses frequently begin to shed their pollen before the trees have finished pollination, so that in some localities and in very warm springs the two seasons may overlap. By careful observation and analyses of cases of this type of hay fever, the season is found to be subdivided into two short but distinct periods. The first period extends from the last week in May to the middle of June and is due either to the pollen of June grass, orchard grass or sweet vernal grass; the second period begins about the middle of June and extends for six weeks to the end of July and is due either to the pollen of timothy or redtop.

The particular kinds of grass that are common causes of hay fever vary with the locality and have to be determined as causative agents by observing (1) the predominating grass, (2) the amount of pollen produced and finally by testing hay fever patients with the pollens of grasses pollinating at the time the symptoms exist. It can be assumed that the pollen of any grass or plant can produce hay fever symptoms in a susceptible individual, but for practical purposes the pollen of timothy, redtop, orchard grass and June grass are the most frequent causative agents for patients suffering from the early summer type of hay fever in this vicinity. The predominating causative pollen may vary, depending upon the dominating grass or plant in a given locality; that is, Bermuda grass, Brome grass, broncho grass, etc., are the causative agents in those localities where these grasses are the dominating growth.

Since this type of hay fever is often called rose fever or rose cold a few words concerning sensitization to roses are interpolated. Thousands of patients have been tested with rose pollen and it is a rare patient, usually a florist or gardener, who will give a positive test at the same time giving a negative one to the grasses. The usual patient mistakenly calls his

hay fever by the more esthetic name "rose gold," because he sees the conspicuous roses blooming during the period of grass pollination and fails to consider the inconspicuous innumerable more green flowers of the grasses that are constantly sifting pollen into the air.

Many other plants besides grasses and roses bloom during June and July; Indian corn or maize, clover, dandelion, lily, plantain, pigweed, smart weed, pepper grass and dock, to name those which may cause hay fever symptoms. However, these are not very frequent factors in the production of symptoms as their pollen either is scant or very heavy or altogether insect pollinated. They need only be seriously considered when the patient has frequent and intimate contact with these plants and negative tests with the usual grasses.

The next type of hay fever, the late summer or fall type, begins in this vicinity from the fifteenth to the twentieth of August and is due to the pollen of the compositæ. The symptoms continue until either the ragweed flowers have been killed by frost late in September or until they have dried up and gone to seed some time in the month of October. In many patients the symptoms do not stop when pollination ceases, being kept up by infection of the irritated nasal membranes and continue into the early winter or even Christmas time. This type of hay fever is much more severe and prolonged than either of the two types previously described and affects a greater number of people.

The chief offending pollen for this type is derived from the common ragweed which grows abundantly along roadsides, in vacant lots and waste places, and in uncultivated garden plots. Wherever the sod has been broken and the ground then left undisturbed, the weed gets a foothold. The plant at first grows with one main stem like a little tree, and with its finely divided green leaves it bears a superficial resemblance to a young tomato plant. It grows to a height of two or three feet, with great variation in the shape of the leaf, the color being a dusty green, the whole plant assuming a weedy ragged appearance. It sheds an enormous amount of pollen which may be seen as clouds of yellow dust when the plant is shaken. A conception of the amount of pollen shed by ragweed can be had from the experiment in which a ragweed plant was placed in such a position that all pollen falling was caught on a platform. The pollen which fell from 8 a. m. to 1 p. m. was calculated to number approximately eight billion pollen. This amount of pollen could be greatly augmented by shaking or disturbing the plant so that in reality the number of pollen shed by one ragweed plant during a season nearly approaches an incalculable

amount. In addition it is also very buoyant; a wind of twenty miles per hour carries the pollen one-half mile on level ground and many times that distance when deflected upwards by air currents. One easily realizes then that on account of its abundance and buoyancy, it is present everywhere during the period of pollination. With these facts in mind it can be readily understood that although there is relatively more pollen in the country, enough of it can be blown into the city to affect sensitive people and also increase the concentration of pollen derived from the ragweed growing on vacant lots. It becomes mixed with street dust and adheres to the flowers and leaves of other plants, thus accounting for the increase of symptoms while driving on country roads and the production of symptoms from inhaling the aroma of apparently innocuous flowers. In this way many flowers have come to be blamed for hay fever when in reality the affected person was coming in contact with ragweed pollen adhering to the flowers.

Ragweed is not the only plant that pollinates during August and September. Sunflower, goldenrod, goldenglow, chrysanthemum and astors are a few of the number of the same botanical family pollinating at this time. The pollen of these latter is small in amount and much heavier than ragweed, so that symptoms are only produced by directly inhaling the pollen, even in those who can be proven to be sensitive to these pollen. When symptoms are produced by inhaling or handling these flowers they are usually caused by ragweed pollen adherent to them. Here again, as in the mis-called rose fever, goldenrod, the yellow daisy, or blackeyed susan, the wild astor, etc., have been considered the causative factor by the layman for this type of hay fever, because they are conspicuous and abundant in the autumn, when in reality they were but growing in the same locality as ragweed. For this type of hay fever the chief offending pollen also varies, depending upon the dominant growth of a given locality; as example, the pollen of Russian thistle is an important factor in central and western states; goose foot and pigweed among others in Arizona; sagebrush and others in Colorado; mugwort and others in California. In some sections Johnson and Bermuda grass have to be taken into account because in these sections they pollinated not only in the early summer but also in the late summer and fall; but for this immediate vicinity the common or dwarf ragweed is the causative agent.

As has been stated, the intensity of symptoms varies as a rule with the type of hay fever, the most severe symptoms occurring in the fall type and the mildest occurring in the early spring type. This rule is not unalterable, how-

ever, for patients have been observed with spring or grass hay fever with the most severe symptoms. In all types after a few days of mildly suspicious nasal irritation or sneezing the onset becomes abrupt with frequent and uncontrollable sneezing accompanied by thin nasal secretion and blocking, an intolerable itching of the eyes and throat and usually a loss of smell and impairment of the sense of taste. Attacks of bronchial asthma are not infrequently added to the patient's suffering. The symptoms vary in their intensity in different people and in the same person under different circumstances. The variations of symptoms in the same person are dependent entirely on the concentration and amount of pollen present in the air at a given time. Symptoms are aggravated by automobile or train riding only because the sufferer is exposed to and comes in contact with a greater number of pollen.

By simple tests it can be determined what pollen are the cause of the affliction in a given patient. A small amount of the pollen itself, moistened with a drop of weak alkaline solution or a drop or two of a concentrated solution of the pollen, is placed on a scratch made on the inner surface of the forearm. A large number of test can be made at the same time: the number depending on the amount of available surface on the forearm. A control scratch is also made, moistened only with the diluting fluid and is compared with the reactions obtained on the other cuts. The pollen which do not affect the patient and which therefore do not cause his hay fever, produce no reaction on their respective cuts, these cuts appearing similar to the control cuts. However, those pollen which affect the patient and are the cause of his hay fever, produce at the site of the cuts, itching and swelling of the skin with a surrounding zone of redness. This positive reaction looks quite like a hive or mosquito bite. Within an hour or two the itching and swelling disappear; the scratch heals in a few days, leaving no scar. This test, first conceived by the experiments of Blackley, is remarkable for its simplicity and accuracy in determining the causative pollen. If several pollen give positive reactions, by similar skin tests performed with dilutions of these pollen one can distinguish by the intensity of the reactions, that pollen to which the patient is the more sensitive, or the chief offender for that particular patient. As yet, we do not know why some people have hay fever and others do not, but must content ourselves with the statement that it is a matter of individual idiosyncrasy.

Since all types of hay fever are due to contact with, and consequent absorption of pollen, it is obvious that there are available to us two

methods of relief, one to build up the resistance against the causative pollen so that they can withstand the absorption of that pollen without producing symptoms; and the other to avoid contact with pollen. After one has determined the offending pollen, treatment by means of subcutaneous injections, beginning with a very small dose and gradually increasing the dose until a very large one is given, has been the most successful method of raising the resistance to that point where a hay fever sufferer enjoys comparative freedom from symptoms. The best results are obtained by preseasonal or preventive treatment, the object being to raise the resistance of the patient to the highest possible point just as pollination commences. In the ordinary case it should begin about three or four months before the onset of the hay fever symptoms although highly susceptible patients have been observed in whom it has been necessary to commence treatment as long as five months preceding the onset of symptoms. In this manner, for the spring type, nearly one-third of the patients have about fifty per cent relief, another third about seventy-five per cent relief and the other third are almost free of symptoms. For the fall type about one-fourth are almost free of symptoms, about one-third have seventy-five per cent relief and one-fourth not more than fifty per cent relief. In all fairness it is to be pointed out that only a small percentage of patients have an absolutely sneezeless season, the goal of every hay fever sufferer; but it is to be emphasized that the great majority of patients treated preseasonally obtained in the neighborhood of seventy-five per cent relief.

Many patients do not present themselves in time to institute adequate preseasonal treatment and some even wait until the appearance of symptoms. The results obtainable in these patients are less satisfactory. Treatment during the season requires utmost care, because patients are inhaling an unknown dose of pollen from the air and in addition are receiving a known dose of pollen by injection, thereby laying themselves liable to an overdose, due to the combined action of the inhaled and injected pollen, which would make their symptoms worse instead of better. However, about one-half the patients who try this method consider themselves from twenty-five to fifty per cent improved; the other half obtained no relief whatever. Patients who present themselves too late for adequate preseasonal treatment will obtain results proportional to the number of injections that can be given before pollination commences.

These series of injections must be repeated each year, experience showing that the resistance of immunity built up for one season does not extend over to the next year. There is

some evidence accumulating, however, that less treatment is needed in succeeding years, so that it may be possible that eventually complete and permanent immunity might be accomplished without further treatment.

Avoidance of contact with pollen is the only certain way to prevent hay fever symptoms. There are many advertised resorts as being free of hay fever, but this is only true for those who suffer from ragweed hay fever. There are several ragweed free areas in the United States and Canada where the "ragweeders" can go and live in comfort but this does not appertain for those who suffer from grass or early spring hay fever. About the middle of a large body of water is the only place where grass pollen will not be found, so that hay fever resorts for the relief of the spring type or very scarce. In general, however, points along the sea coast where the prevailing winds are off the sea will be found suitable for all types.

Avoidance of contact can also be practised at home, however. Practically, it makes no difference how this is accomplished, but so long as one keeps the pollen from alighting on the membranes of the nose, eyes, and throat, just so long will one be free of symptoms. The wearing of gauze masks covering the nose and mouth and the wearing of large glasses will prevent contact with an excess amount of pollen and hence make one more comfortable; sleeping in a closed room or taking quarters on the topmost floor of a tall hotel will make a change from discomfort to comparative comfort or even complete relief. Closing the wind shield and the window nearest you will in many instances make your automobile ride one of comfort instead of a continuous sneeze. Breathing through a handkerchief held lightly over the nose or mouth will filter out enough pollen so that a train or street car ride can be enjoyed in comfort. Frequent washing of the hair, many times, especially in women, give a more comfortable season. No matter how accomplished, the principle of avoidance of contact is basic and the results obtained will be commensurate with the diligence with which this principle is followed.

In most cities at least the principle of avoidance of contact can be carried to the point of preventing the growth of ragweed. If the weed cutting ordinance of St. Louis were rigidly enforced and all vacant lots leveled by the tenth of August the incidence of ragweed hay fever would be greatly decreased and the severity of symptoms considerably modified.

It happens not infrequently that patients with apparent seasonal hay fever do not give positive reactions to the air borne pollen. In such patients, seasonal foods, such as green corn, strawberries, peaches, melons, etc., must be considered and when positive skin tests are

obtained, complete relief follows avoidance of that food. Also, there are pollen hay fever patients who find that their symptoms are aggravated by eating certain food which at other times gives them no discomfort. By abstaining from these foods during the hay fever season their season becomes more comfortable. The use of home made wines, such as dandelion and elderberry, may aggravate symptoms in hay fever patients who are sensitive to the pollen which may be present in such wines. There are also patients who have apparent seasonal hay fever, usually in the spring and early summer, who are found to give positive reactions to horse dander, the hair of dog or cat, rarely guinea pig or rabbit, goose feathers or chicken feathers, or the feathers of a pet bird and who do not react to pollen. It is usual for such patients to have more or less symptoms throughout the year, but owing to the fact that the animals are shedding their coat and the birds moulting their feathers their symptoms are pronounced at this time.

There is still a great deal of work to be done in studying hay fever before the details are known for various localities. The flora is affected by latitude, by altitude, by rainfall, by prevailing wind direction, by introduction of plants and other factors not belonging within the realm of medicine, but which must be taken into account before the proper treatment can be instituted. However, by raising their resistance or by avoiding contact, it is possible now for a large majority of hay fever sufferers to live in comparative comfort.

401 Humboldt Building.

THE PUBLIC AND THE COUNTY HEALTH OFFICER

JOHN F. CHANDLER, M.D.

OREGON, MO.

Why? "For what cause, reason or purpose; on what account"—as Webster has it—is the county health officer?

We shall endeavor in this article to give some reason for the existence of the county health officer and name some of the reasons why the public fails to understand the purpose of the law and the failure of the people to co-operate as they should in the work of preventive medicine.

The fact that some county health officers do so little to enlighten the public along the line of preventive medicine is largely responsible for the lack of interest shown by the laity and the failure to get co-operation from the public.

The deputy doing little leads the public to think there is little to be done, little to be accomplished by the health officer and his existence a useless expense to the county.

On the other hand, if he is industrious and will put before the public a good reason for doing a thing, he will have ready listeners and an opportunity to make good.

It is hard to find a good man willing to take up the work in the country districts owing to the fact that the smallness of the compensation county courts are willing to offer is too meagre for one well qualified for the work to be done.

Before we may expect it to be otherwise it is necessary to elect to office men of broad vision along the line of public welfare, men who realize that human life is as valuable as the life of swine and that, although they may view it from a monetary standpoint, the lives of their constituents, who are responsible for the position they hold, is just as valuable as the life of the one elected to serve them; that a healthy mind and a sound body are the things most to be desired and the way to keep them, if you have them, and prevent the opposite condition, is by safeguarding the health of the citizens of our commonwealth.

Disraeli has well said: "Public health is the foundation upon which rest the happiness of the people and welfare of the state. Reform directed toward the advancement of the public health must ever take precedence of all others." Dr. Hubert Work, in his presidential address before the American Medical Association at Boston, said: "Community health, physical and mental, is the foundation stone of a nation. Etiology and prophylaxis should therefore engage medicine's first thought." Dr. H. B. Wood tells us: "Public health is an indispensable asset for progress of any nation; its attainment is an object of the first magnitude." As we have it from Herbert Spencer: "The government which does not diligently protect the health of its citizens is neither intelligent nor moral."

The first requisite of a health officer is that he love his work. That there is within his heart a desire to accomplish what he undertakes. It has been said, "where there is a will there is a way." And he who wills it and loves his work will be favored by the inspiration to do that work well and work well done in any line of endeavor for good is sure to be successful, providing the man is, as he should be, qualified for the work he undertakes to do. For, if qualified and he wills it, the incentive will come and he will succeed. After all, what is success? It means an opportunity to serve humanity. And I know of no better opportunity than that by which we may help protect human beings from sickness, suffering and death.

When little is being done the public is given to look on the work of the health officer as a farce and quarantine as a herd law. While the

fact remains that there is much to be done in an educative way on public health laws, where quarantine is established it is the duty of the health officer to make known to the household-er his duties under quarantine, his obligation to the public, the course to pursue in regards to those within his household concerning the afflicted as well as those who have not contracted the disease.

Further, the health officer should make record of all proceedings, being careful to take the names of all the inmates of the household, noting all those with the disease as well as those who have not yet become ill, ascertaining the age and sex of all, date of onset of the disease, nature of immunity, if any, of those unaffected, time of exposure of all exposed to the infection and make a survey of the premises. After this he should make known to head of the family the requirements under the regulations, that he may safeguard those in the home and be in a position to prevent the spread of the contagion to others. He should also tell the inmates what is required before he can release them from quarantine, that everything may be in readiness when he returns for inspection and final clean-up.

Before leaving, he should not fail to endeavor to learn the source of the infection from which the family contracted the disease, that he may be enabled to prevent further spread of the contagion.

There is a personal side to the calling of a health officer and if he is a humanizer, so-called, and can make use of diplomacy, he may be able to handle a delicate situation and get on with the head of the household without friction and thereby get much information and enlist his co-operation in controlling the epidemic.

Whenever terminal disinfection is called for it should be done thoroughly. It is not enough to say, as many do: "Oh, take a bath, a change of clothing, and burn so many candles of formaldehyde in the rooms." It should be done properly, with room at a suitable temperature and the cracks around doors and windows and all openings sealed securely that the gas may be confined long enough to kill the germs, after which scouring may be done, if required. A lack on the part of the health officer to observe the proper precaution in fumigating has resulted in death. He had instructed the household-er to burn formaldehyde candles in the room without instruction to have room properly heated and the humidity increased. As a consequence the gas meeting with the cold atmosphere condensed, polymerization took place, settling on bed clothes, walls, etc., so that when building a fire in the room next morning and placing his wife, who was not well, therein, the

fumes of formaldehyde gas arose, his wife developed an attack of asthma and died of fibrinous bronchitis one week later. The thoroughness with which the health officer goes about his work does much to create public sentiment in his favor and bring about co-operation of the public.

I have reported cases to the health officer and on returning to the home of my patients found that the deputy had tacked up a card and taken his departure before any one in the house could get to him to learn his purpose. In some instances the health officer instead of complying with the regulations by visiting the individual case and confirming the diagnoses, had sent out a card with the request that it be put up. If he would call and did nothing more than make known to the inmates that cleanliness, sunlight, fresh air and cheerful surroundings do much towards hastening convalescence he would at least be doing something along the line of public health.

In conducting the office along the lines I have mentioned, neglecting the work as many do is it any wonder that the public looks on the work as a failure, the health officer as a nuisance, and the expense to the county useless, and the people ever ready to vote down any proposition calling for restriction of liberty without justification? No doubt the conduct and neglect of duty on the part of many health officers in rural districts is largely responsible for the defeat of Amendment No. 5.

One author puts it thus: "There is but one remedy for our national ills—education. Knowledge and inspiration are essential to citizenship."

Who has a better opportunity to enlighten the public along the line of public welfare than the county health officer, who may visit the home of many and direct them to the way of better living, more healthful environments, and teach them how to make use of Nature's methods for the advancement of preventive medicine? A wonderful opportunity for evangelizing the world.

To get on with the work it is necessary for the health officer to visit the home and make known the purpose of preventive measures and see to it that they are properly carried out, as neglect on the part of the deputy and failure to enforce the law when it becomes necessary bring about contempt for the law and little progress is the result.

To bring about the change required it becomes necessary that men appointed as deputies be qualified for the work and not be subjected to removal on account of political affiliation. They should be men who possess enough personality to stand on principle, comply with the law and not do anything which may bring discredit on the calling of the health officer.

The fact that preventive medicine as a science is so well established throughout the world and the results, which one may learn if he cares to look up official reports, so evident that I consider it useless to attempt to argue along that line. However, it seems strange to me that some of our county judges should show so much interest in the prevention of hog cholera and so little in the prevention of diphtheria. Yet the results along the line of prevention of diphtheria are far more successful. It does seem as though they could be made to realize that the lives of human beings are as valuable as the lives of swine.

Lack of enforcement of the law creates contempt therefor. In consulting the prosecuting attorney during my term as health officer for Holt county I was informed that it was up to me to supply the evidence if I would enforce the law. This I did and the case got as far as to be placed on regular docket, carried over from one term to another and finally dismissed without my knowledge or consent, although the prosecutor knew that I held evidence in the hand-writing of the defendant. Enforcement of the law by the health officer depends on the personnel of the enforcement officers and if he is unable to get their co-operation it is useless to attempt prosecution, no matter how flagrantly the law has been disregarded. It may remain so as long as the prosecuting attorney has authority to dismiss cases without trial. It seems to me if evidence is satisfactory to a jury of twelve men, good and true, and the case placed on the docket, the case should go to trial.

Again, owing to public clamor of a few individuals, whose eyes are blinded to the welfare of others, who complain of the expenditure of county funds for the protection of the public, some county courts see fit to let the work of the county health officer to the lowest bidder, regardless of his fitness for the position. On inquiring why this is so I was told by a county judge, "we appoint the man and it is up to the people to see that he does his duty." These are some of the reasons for the wretched state of some of our local health boards, and to them may be added politics. The field work depends on the local health officer, so when he is handicapped by lack of knowledge concerning the work to be done, is indolent and negligent in the performance of the duties of the office, protected by political bosses and supplant men who would do the work effectively, is it any wonder that many state boards fail to function as they should?

To place the work on the high plane where it belongs and thereby save hundreds of children growing up to lives of misery from lack of provision to protect them against diseases that cause mental degenerates, deformed and

helpless cripples, who become a burden to society, a public charge—a hapless mass of humanity—it becomes necessary to educate and thereby elevate.

This cannot be done by placing moral degenerates in office. Elect *MEN*. The first requisite of manhood is that he earnestly endeavor to meet his obligations—all obligations—especially those he owes to the public as an official. There are no obligations other than those which are honorable and uplifting.

An epidemic of a contagious disease is not a visitation of God's wrath, as some would have us believe. It is simply the result of man's neglect in failing to make use of the talents he possesses, or the result of the action on the part of some political boss whose brain is rusty and whose mental vision does not reach beyond his own selfish aim.

If we adopt "A healthy mind in a healthy body," the new slogan for personal fitness, we should pass it on to others, for if good for us it is good for them.

We are told that it is important to keep a healthy attitude toward life if we would preserve a sound digestion. We might go still further and say, if we would be healthy we should assume a healthy attitude to all the world. If we do this it will be the means of divesting us of much selfishness and we will think of the welfare of others.

Statistics show that boards of health in a few states have been directly instrumental in reducing the death rate fifty per cent in the last ten years by precautionary methods taken to safeguard the health. While health cannot always be bought with money, money and efficient organization functioning properly in a community can preserve health to the degree of reducing the death rate.

Authorities are agreed that community life cannot be maintained on a very high plane without rigid health regulations. In framing a city charter broad powers are given boards of health so that the inhabitants may be protected against insanitary surroundings and infectious and contagious diseases, for the reason that experience has proven this to be necessary. If necessary in the city it is certainly worth while in rural districts.

SYMPTOMATOLOGY OF A CASE OF SPHENOPALATINE GANGLION NEUROSIS

JESSE D. COOK, M.D.

KANSAS CITY, MO.

For four years prior to November, 1922, Mr. D., a druggist, some thirty odd years of age, had attacks of pain centering about the right mastoid; these occurred about as often

as he would "get in a strong breeze." In a characteristic attack the most marked pain was in the right mastoid region; here it was "real pain." Back of that toward the nuchal region it was "more of a drawing sensation." There were slight intermittent pains in the right outer canal. Deep within, the pain extended from the posterior pharyngeal wall, lateralward to the mastoid and posteriorly to the nuchal region described. There were "times when the soft palate got sore." The right upper teeth would ache but it did not add to the pain to chew on them. Around the right orbital rim "very slight soreness was the worst it ever got." There was no pain on pressure over the right infraorbital region and no supraorbital pain whatever. In some attacks the entire right side of the patient's head would get "numb," and in cold weather the right side of the face would get much colder than the left. An attack had to be very severe to involve the left side of the head in any way and then the involvement was only slight.

Examination showed only a somewhat roughened nasopharyngeal mucosa; there were no other local findings. Physical and functional ear examinations were negative.

The only treatment was the cocainization of the right sphenopalatine ganglion. This was done in all nine times, from October, 1922, until February, 1923, the symptoms meantime growing less and less.

After an interval of something more than a year the patient has just been recalled and reports that since the last of the treatments mentioned he has "not had any of the old pains in the head," no numbness over the right side of the head, and no feeling of greater cold over the right side of the face in cold weather as compared with the left.

812 Waldheim Building.

GASTROINTESTINAL SYMPTOMS AND EPIGASTRIC HERNIA.—Hernia in the linea alba has often been confused with gastric and duodenal ulcer, and sometimes the two conditions exist at the same time. The presence of a tumor or slitlike opening in the linea alba, with or without the protrusion of a small mass on coughing, will help to establish a diagnosis of hernia.

In ulcer the symptoms come on at a certain interval after eating, while in hernia the paroxysmal attacks have no relation to meals but usually follow physical exertion, and the patient finds the most relief is secured by assuming a doubled up position, which relaxes the linea alba—when the omentum slips back into the abdominal cavity the pain disappears. Epigastric hernia must also be distinguished from cholelithiasis, cholecystitis, gastralgia, gastritis, carcinoma, sarcoma, appendicitis, nephrolithiasis, abscess or tumor of the abdominal wall, and the gastric crises of tabes.—LEIGH F. WATSON: *New York Medical Journal and Record*, April 16, 1924.

THE JOURNAL

OF THE

Missouri State Medical Association

SEPTEMBER, 1924.

EDITORIALS

PHYSICIANS OF THE STATE CAN PUT MISSOURI IN THE BIRTH REGISTRATION AREA.

In view of the fact that the statistical report of the American Child Health Association, published last July, shows that the records of Kansas City give an infant mortality rate of 92 per thousand live births and St. Louis 72, while among the 635 cities included in the chart, Minneapolis has 54, Seattle 49, Carthage, Missouri, 27, Winchester, Massachusetts, and Santa Cruz, California, each 26, it certainly behooves the medical profession of Missouri to join with the State Board of Health and Dr. Irl Brown Krause, the Director of the Bureau of Maternal and Child Welfare, in the campaign to put Missouri in the birth registration area of the United States.

Nearly all the states have now qualified for this recognition and are affiliated in the work with the result that they show more accurate statistics and a more alert movement to reduce by every possible means their infant mortality rate. The humiliating figures for Missouri, which are misleading and not at all indicative of the facts, can be made accurate and the stigma removed if we were admitted to the birth registration area.

We have an ideal climate and the profession ranks equal to that of any state and the actual infant death rate should be among the very lowest in the country, but it is up to us, being Missourians, to show the world.

The appeal of Dr. Borden Veeder, of St. Louis, Chairman of the Committee of the American Child Health Association, at the meeting held in Kansas City last October, ought to impress upon every physician the full realization of his duty in this respect. This is the most potent argument yet advanced for the need of this movement. Let us all join with the organizations interested in this worthy ambition and clear our state from the reflection on our health conditions, from the unjust stigma on our profession, from suggestions of careless failure to comply with the law.

In the address referred to Doctor Veeder said: "Can you conceive of a successful business being run without bookkeeping? Can you conceive of a system of bookkeeping being of

the slightest value if the entries are neither complete nor accurate? Transfer this thought to the field of public health. Public health is a business which deals with humanity as well as with dollars and cents and vital statistics have aptly been termed 'the bookkeeping of humanity.' Unless an accurate and complete check is kept upon our efforts to lessen disease, reduce deaths and lengthen life, the cost and the profit of our measures cannot be determined. The first entry to be made in our bookkeeping relates to the birth of the individual. A study of the birth registration in St. Louis and Kansas City shows that approximately one-fifth of the births are not recorded. Undoubtedly the same situation—and, it is thought, even to a larger extent—exists throughout the State of Missouri. Our records do not meet even the 90 per cent efficiency required by the federal census bureau before a state can be classed in the birth registration area. Although the infant mortality rate in St. Louis is low, perhaps even the lowest of any large city in the United States, the figures remain unofficial for purposes of comparison and have been the subject of severe and well deserved criticism. The birth registration law is known to every physician, midwife, and hospital executive in the state and yet we find all three groups responsible for unreported births. We cannot believe it is willful or intentional neglect, as we cannot imagine more than an infinitesimal number of births that for one reason or another it would be desirable to conceal. We believe it is just the same old carelessness and forgetfulness that is responsible but unless Missouri is to remain among the 'backward states' the time has arrived when this subject must be taken up and our birth records made complete. The law provides a penalty for failure to report births. From the professional standpoint it would be disgraceful if the health officers of our state and cities should have to enforce penalties to bring about compliance with the law by the medical fraternity. It is time for the profession to clear its own skirts and obey the law in 100 per cent efficiency leaving the health officers to deal with the midwives. Much might be said about contagious disease reports and the like, but we make this plea for birth registration. There is an old adage about a good beginning that some of you may remember."

CLINICAL CONFERENCE AT KANSAS CITY

The clinical conference to be held at Kansas City October 13-18 under the auspices of the Kansas City Clinical Society, promises a wide variety of subjects for study and a number of

instructive addresses by eminent physicians and prominent laymen interested in promoting the public welfare. During the week the Medical Association of the Southwest and the American Child Health Association will have their annual sessions. It is expected that the clinical material will be more abundant than at the session last year and that ample facilities will be provided for viewing the cases.

Among the prominent persons who will deliver addresses during the sessions are Hon. Herbert Hoover, Secretary of Commerce and President of the American Child Health Association; Dr. George E. Vincent, President Rockefeller Foundation; M. W. Ireland, Surgeon General, United States Army; H. S. Cumming, Surgeon General, United States Public Health Service; Dr. William O'Neill Sherman, Chief Surgeon, Carnegie Steel Company; Isaiah Hale, Chairman, Safety Section, American Railway Association.

Many alumni dinners are being arranged and numerous social affairs have been planned for the entertainment of the visitors. Members desiring further information may address the following: Kansas City Clinical Society, 631 Rialto Building; Dr. E. H. Skinner, Secretary of the Medical Association of the Southwest, 1020 Rialto Building; Dr. F. C. Neff, Local Chairman, American Child Health Association, 1110 Rialto Building, all of Kansas City.

ABRAMS TECHNIQUE AN ILLUSION AND FRAUD

The revolutionary Abrams technique for the diagnosis and treatment of disease which has swept the country is utterly without foundation in science.

Such is the verdict of the *Scientific American* Abrams Investigation Committee which for nearly a year has subjected the so-called electronic reactions of Abrams to a searching analysis. The practitioners of the Abrams method have declared it holds out a new hope for suffering humanity. Its enemies have dubbed it the greatest piece of charlatanism in history. The movement has spread to all parts of the world and threatened to upset the entire theory of the medical profession.

There have been 44 different variations of the Abrams apparatus in this country alone. The Abrams method has had 3,500 practitioners; the other methods have each had a thousand more. The number of patients of all them has run into hundreds of thousands.

"The so-called electronic reactions of Abrams do not exist—at least objectively," declares the committee. "They are merely products of the Abrams practitioners' minds. These

so-called reactions are without diagnostic value. And the Abrams oscilloclast, intended to restore the proper electronic conditions in the diseased or ailing body, is barren of real therapeutic value. The entire Abrams electronic technique is not worthy of serious attention in any of its numerous variations. At best, it is all an illusion. At worst, it is a colossal fraud.

"This electronic development has caused a sad state of affairs in this world of ours. It has given rise to all sorts of occultism in medicine. It has been a renaissance of the black magic of medieval times. It has given free reign to idiotic ideas—ideas which would formerly have been laughed out of existence at their very start. Suffering humanity has been made so many lavish promises of late that it is a sad disillusion now to go back to our conservative orthodox medicine, which, after all, remains our mainstay.

"When the day arrives for the practical application of such serious research work, we may be certain that it will have nothing in common with the passing electronic craze. In so far as concerns the apparatus employed, the methods of exploitation, or the qualifications of the men engaged in the work, it will be wholly without resemblance to the cults whose basic ideas and whose technique this Committee denounces."

Dr. Abrams died suddenly of pneumonia on January 13, in the midst of the *Scientific American* investigation. His death came on the eve of his scheduled appearance as the star witness in the trial of Dr. Mary Lecoque, an E. R. A. practitioner, at Jonesboro, Ark., charged with using the mails to defraud.

NEWS NOTES

DR. T. M. MONROE, formerly of Laddonia, has moved to Hannibal, where he will reside and practice in the future.

DR. JOHN M. DEAN, of St. Louis, who has been surgeon at the St. Mary's Hospital for the past fourteen years, has been appointed surgeon on the staff of St. John's Hospital.

The following have been accepted for New and Nonofficial Remedies:

Manhattan Eye Salve Company; Butyn Ointment-M. E. S. Co.; Holocaine Ointment-M. E. S. Co.

DR. ERNEST BEHAGEN, of St. Louis, who was serving a two-year sentence in the work-

house for practicing medicine without a license, escaped from the institution August 6, and has not been recaptured.

THE firm of Drs. Donaldson and Knappenberger, Kansas City, conducting an X-ray and radium laboratory, has been dissolved, Dr. Knappenberger retiring. Dr. Donaldson will continue the laboratory under his name.

EDWIN F. SCHWENKER, a chiropractor at St. Louis, was arrested by the health department, August 13, charged with practicing medicine without a license. The department obtained documentary evidence that Schwenker was violating the medical practice act.

THE staff of Evacuation Hospital 67 (Missouri Baptist Sanitarium Unit, St. Louis), organized reserves, authorized by the Secretary of War, June 27, 1922, is composed of the following: Dr. Wm. H. Luedde, Lieutenant-Colonel, Commanding Officer; Dr. Lee Dorsett, Major, Executive Office; Dr. Willard Bartlett, Lieutenant-Colonel, Chief of Surgical Service; Dr. Oliver H. Campbell, Lieutenant-Colonel, Chief of Medical Service.

THE Shriners' Hospital for Crippled Children at St. Louis was made the beneficiary of the estate of Colonel Clarence A. Sinclair, of St. Louis, who died August 10. It is estimated that the value of the estate will exceed \$100,000, and it is stipulated that the money shall be used for the erection and maintenance of a home for the convalescent children in the Shriner's Hospital. Colonel Sinclair was a thirty-third degree Mason and a vice president of the Shriner's Hospital organization.

IN the published proceedings of the last Annual Meeting held at Springfield the names of only three members of the committee on amendments to the constitution and by-laws were appended to the report. The other members of the committee, Jabez N. Jackson and J. E. Thornton, should have appeared on the report as they all approved it. We make this correction at the request of the chairman of the committee so that all members will know the report was approved by the entire committee.

AN application by Dr. Joseph C. Vorbeck, of St. Louis, Medical Director of the Radium Products Company, to open a sanitarium was denied by the Board of Public Service. Health Commissioner Starkloff upon investigation found that the officers of the sanitarium were all stockholders in the R. D. Burchards Chemical Company. The president of the chemical company had previously applied for a permit to open the sanitarium but this was denied be-

cause there was no physician on the staff as required by ordinance.

THE alumni of the University Medical College, Kansas City, Missouri, will hold a reunion banquet Wednesday, October 15, 1924, 6:30 p. m., in the banquet room of the Kansas City Athletic Club, Kansas City. During the noon hour of the same day the various classes from 1882 to 1913 inclusive will hold individual class reunion luncheons. The reunion banquet is a part of the program of the Kansas City Clinical Society, which will convene in Convention Hall, Kansas City, October 13-18.

THE Inter-State Post Graduate Assembly directed by the Tri-State District Medical Association, will meet at Milwaukee, Wisconsin, October 27 to 31. General headquarters for the sessions and exhibits will be at the gymnasium building at the Marquette University. Among the speakers on the program is Dr. Ralph A. Kinsella, St. Louis, who is to read a paper on "Treatment of Certain Types of Chronic Rheumatism," and Dr. Ralph H. Major, Kansas City, to read a paper on "Medical Treatment of Empyema With Special Reference to Chemotherapy."

ACCORDING to newspaper dispatches the California Board of Optometry has started a housecleaning and issued twenty-six citations to San Francisco optometrists to appear before the board and show cause why their licenses should not be revoked. It is said the board is investigating a report that large numbers of optometrists gained their licenses in California by presenting fraudulent diplomas. It is also asserted that the practice of splitting fees is prevalent among many optometrists and certain oculists and the board has announced that it will endeavor to put a stop to this practice.

THE Traveling Trachoma Clinic of the State Board of Health, co-operating with the United States Public Health Service, will hold clinics in the following towns starting at St. Charles September 15 and 16. From there the clinic will go to Warrenton September 17 and 18; Montgomery City, 19 and 20; Mexico, 22 and 23; Columbia, 24 and 25; Moberly, 26 and 27; Kirksville, 29 and 30; Macon, October 1 and 2; Paris, 3 and 4; Stanberry, 6 and 7; Gallatin, 8 and 9; Chillicothe, 10 and 11; Brunswick, 13 and 14; Carrollton, 15 and 16; Excelsior Springs, 17 and 18. A two-day clinic will be held at each town.

It is reported that Dr. A. L. McKenzie and the Central College of Osteopathy, Kansas

City, have filed suit in the circuit court against the Osteopathic Board for \$150,000 damages. The petition alleges that the Osteopathic Board and members of the Board have conspired to discriminate against and boycott the McKenzie school and branded the school as not reputable.

Dr. McKenzie is also president of the Kansas City University of Physicians and Surgeons and lost his suit against the State Board of Health recently, asking the court to compel the State Board of Health to accept the graduates of the Kansas City University of Physicians and Surgeons as applicants for licenses to practice medicine.

EXAMINATIONS of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following-named places on the dates specified:

At Washington, D. C., September 15, 1924.

At Chicago, Illinois, September 15, 1924.

At San Francisco, Cal., September 15, 1924.

At New Orleans, La., September 15, 1924.

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily, oral, written and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

THE action of the State Board of Health in refusing to accept graduates of the Kansas City College of Physicians and Surgeons for examination for license to practice medicine was supported in a decision by Judge Willard P. Hall, of the Independence Division of the Circuit Court. Dr. A. L. McKenzie, Dean of the Kansas City College of Physicians and Surgeons, brought suit against the State Board of Health on a writ of certiorari claiming that the Board had been unfair in its attitude towards the school. In his decision Judge Hall pointed out that Dr. McKenzie had admitted on the stand that the finances of the school did not permit the employment of high-priced medical experts as instructors. He also drew attention to the fact that according to the testimony given at the trial the equipment of the school was not adequate for a first-class medical college. Members of the Jackson County Medical Society gave important testimony

upon the equipment and character of faculty requisite for teaching modern medicine.

FERDINAND C. A. MEYER, of Overland, St. Louis County, was arrested by the County authorities on the charge that he was practicing medicine without a license. It is said that Meyer conducted a "health farm" and claimed to be an expert dietitian but denied that he had attempted to practice medicine. He says that he can also do a neat job of carpentering and that he is quite a success as an assistant to civil engineers. His arrest was brought about through the complaint of the parents of a girl nineteen years old who placed their daughter on the "farm" under Meyer's care and claimed that Meyer had mistreated the girl. Meyer told the deputies that while he was a graduate from a chiropractic college, he had been denied a diploma and that he was treating Miss Andrews for tuberculosis by administering proper food, fresh air, mud baths and rest. It is said that the "sanitarium" consisted of a one-room house, lacking even sanitary provisions. Meyer's business cards, as exhibited at the Sheriff's office, read: "Scientific massages; corrective feeding; Gospel natoropath, since 1915; proprietor of the rural health baths."

BOOKS FOR LEISURE MOMENTS

*Reading with discrimination broadens the mind
and strengthens the mental grasp*

A certain prominent specialist makes a point of presenting his hospital patients with a copy of "The Man Who Was Thursday," by G. K. Chesterton. Why not "Right Off the Chest," by Nellie Revell?

This sparkling book embodies the author's impressions of hospital life, doctors, diets and friends, all of which she had great opportunity to observe at close range during her four years' confinement in a "steel and reinforced concrete cornerstone" at St. Vincent's Hospital, New York.

Her praise of medical science, doctors and hospitals is intelligent and her philosophy of endurance humorous. The humor of Nellie Revell foils the underlying pathos so that one feels the book to be the creation of a good sportsman rather than that of a saccarine Pollyanna.

Chiropractors and spinach occupy the same place in the author's category of things in general though she does make the point that spinach, though distasteful, might do one some good.

The book is enlivened by illustrations contributed by such well known friends of the

author as Goldberg, Flagg, Hill, Briggs, Sarg and many more.

The introduction by Irvin Cobb is right off the Cobb.

L. F.

OBITUARY

ROBERT L. MOUNT, M. D.

Dr. Robert L. Mount, Polo, Missouri, a graduate of the Ensworth Medical College, St. Joseph, Mo., 1891, past president of the Caldwell County Medical Society, a member of the Missouri State Medical Association, Fellow of the American Medical Association and member of Medical Corps World War, died at Christian Church Hospital, Kansas City, June 11, 1924, aged 67.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

Charlton County Medical Society, December 13, 1923.

Camden County Medical Society, January 17, 1924.

Madison County Medical Society, January 19, 1924.

Cooper County Medical Society, January 19, 1924.

Platte County Medical Society, January 22, 1924.

Morgan County Medical Society, January 23, 1924.

Cape Girardeau County Medical Society, January 24, 1924.

Clark County Medical Society, February 11, 1924.

Dent County Medical Society, March 5, 1924.

Adair County Medical Society, March 5, 1924.

Howell County Medical Society, March 11, 1924.

Taney County Medical Society, March 20, 1924.

Webster County Medical Society, March 20, 1924.

Vernon County Medical Society, March 22, 1924.

Schuyler County Medical Society, March 24, 1924.

Atchison County Medical Society, March 25, 1924.

Ray County Medical Society, April 2, 1924.

Ralls County Medical Society, April 28, 1924.

Christian County Medical Society, May 1, 1924.

Pulaski County Medical Society, May 10, 1924.

Carter-Shannon County Medical Society, May 16, 1924.

CALDWELL COUNTY MEDICAL SOCIETY

Meeting of May 22

The Caldwell County Medical Society met May 22 in the County Court Room at Kingston, at 2 o'clock p. m. As Dr. G. S. Dowell, president, was not present, Dr. J. W. Cannon was called to preside. Present were: Dr. Tinsley Brown, secretary; Drs. T. W. Scanlon, B. F. Carr, M. L. Clint, Mrs. O. N. Thompson, J. E. Gartside, W. S. Shouse, J. W. Cannon and F. B. Dorsey, Jr., of Keokuk, Iowa, as visitor. The minutes of the meeting held at Polo, April 17, were read and approved.

The best remedies in the treatment of rheumatism were discussed by Dr. Clint and others.

Dr. Brown read a paper on the significance of heart action. This was discussed by Drs. Carr and Clint.

Dr. Dorsey gave a talk on fractures and their treatment and showed a number of X-ray pictures of the different methods of plating and bandaging. He advocated the open method where a picture shows a faulty coaptation.

The Society adjourned to meet in Hamilton at a convenient date in June.

Meeting of July 24

The Caldwell County Medical Society met at Hamilton, July 24, at 1:30 p. m. The president, Dr. G. S. Dowell, not being present, Dr. Tinsley Brown presided. Those present were: Drs. L. M. Daley, J. M. W. Cannon, B. F. Carr, H. R. Booth, M. L. Clint, J. E. Gartside, Emma A. Thompson, W. S. Shouse, and Tinsley Brown. The minutes of the previous meeting held at Kingston, May 17, were read and approved.

Dr. T. P. Bohan, of Kansas City, being present was invited to participate in the work of the society and he proceeded to examine and discuss a number of clinical cases which had been brought in by the members of the society: A boy of 14, who is undersized for his age. A mother and son in which complaint was made mostly of the stomach and a generally "give out" feeling. Dr. Bohan attributed the condition mostly to a want of proper food to provide nutrition. A robust man of 37 years who had a heart sound which Dr. Bohan diagnosed as extracardial. A poorly nourished man gave a history of periodical spells of extreme nausea. Previous tests show plus 4 Wassermann. Diagnosis, gastric crisis. A man of 57 years was presented who showed all the classical symptoms of Parkinson's disease.

Drs. B. S. Carr, J. E. Gartside and L. M. Daley were appointed a committee to draft suitable resolutions in reference to death of Dr. Robert L. Mount, of Polo, a member of our Society, the report to be made at next meeting of our Society.

On motion Dr. Bohan was thanked for his presence and discussion of the above cases.

The Society adjourned to meet in Breckenridge in August if roads and weather are favorable.

TINSLEY BROWN, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society met in regular monthly session on July 14 at Cape Girardeau with the following members present:

Drs. Cunningham, Yount, Zimmermann, E. H. G. Wilson, W. K. Statler, O. L. Seabaugh, D. I. L. Seabaugh and D. G. Siebert. Dr. Shelby was the only M. D. visitor, but this being a meeting to which the society had invited the dentists of the county to be present, the following were present: Drs. Rapp, Sadler and Baumstark of Cape Girardeau and Drs. Howard and Wilson of Jackson.

The meeting was called to order by Dr. Zimmermann, the president. The minutes of previous meeting held at Oakridge June 9, as appearing in the July *Bulletin*, were read and approved.

The transfer card of Dr. M. H. Shelby, formerly of Charleston, Mo., was received and referred to the board of censors.

The courtesies of the meeting were extended to all visitors.

No further business appearing, the scientific program was taken up. The subject of the evening being Oral and Nasal Focal Infections, Dr. Rapp gave us a paper on oral focal infections and Dr. Cunningham one on nasal infections. These two papers were well prepared and brought out many splendid points on this important subject. The society thanks them for their able presentation of the subject, especially Dr.

Rapp, who is not a member of our society but who took the time and trouble to prepare this paper for us. This subject of oral and nasal focal infections brings the dentists and M.D.'s very closely together and much valuable information may be secured by their co-operation. The two papers were fully discussed by all present and many questions asked. Everyone went home feeling well repaid for having attended.

Dr. W. K. Statler reported a case of gonorrhoea in a twelve year old boy, the source of infection likely being the toilet seat.

The Society adjourned and upon the invitation of Dr. Zimmermann repaired across the street for refreshments.

D. G. SEIBERT, M. D., Secretary.

RANDOLPH COUNTY MEDICAL SOCIETY

The Randolph County Medical Society held its regular monthly meeting in the Chamber of Commerce rooms Tuesday evening, August 12, with seventeen members and visitors present. The president, Dr. Mitchell, being absent, Dr. Barnhart of Huntsville, presided. Those present were: Drs. Barnhart of Huntsville; Nichols, Burkhalter and Winn of Higbee; Smith and Johnson of Madison; Cuppidge, Clapp, Ragan, Nickell, McCormick, Towles, Davis, Huber, Bazan, McReynolds and Dixon of Moberly.

Dr. M. R. Noland presented a "case history" with very interesting symptoms and laboratory findings, which brought out a general discussion.

Besides considerable routine business, a committee was appointed to arrange for the annual meeting of the doctors and their families. This is becoming one of the most pleasant events of the society. All business and professional work is laid aside and an evening spent in good fellowship and getting acquainted.

Last year the meeting was held at the Country Club and thirty-eight doctors and their wives were present. They are planning for a greater number at this meeting. The committee on arrangements is composed of Drs. Clapp, McCormick and Ragan.

Dr. Smith of Madison will have a paper for the next regular meeting.

C. H. DIXON, M.D., Secretary.

WRIGHT-DOUGLAS COUNTY MEDICAL ASSOCIATION

The Wright-Douglas County Medical Association met July 24 at 2 p. m. in Dr. R. A. Ryan's office, at Norwood, with the following members present: J. A. Fuson and R. M. Rogers, of Mansfield; R. M. Norman, of Ava; R. A. Ryan, L. T. VanNoy and J. B. Little, of Norwood; A. C. Ames and E. C. Wittwer, of Mountain Grove.

The president being absent and the vice president not having yet arrived, R. M. Norman was chosen to act as president. The minutes of the last meeting were read and approved. E. C. Wittwer, vice president, having arrived, then took the chair.

The Secretary read a letter from the Medical Intelligence Bureau of Hot Springs, Ark., which stated some facts regarding that health resort not generally known.

Dr. Rogers delivered an address on "Our Needs" that occupied one hour, in which he dwelt upon several economic questions affecting the medical profession and the need of legislation to correct conditions, especially in regard to treating the sick by those not properly qualified to do so and the treatment of charity cases.

Dr. Ryan gave a short talk on Bright's Disease in which he brought out that the presence or absence

of albumen in the urine is not always proof of the presence or absence of Bright's disease and that there are really several diseased conditions grouped under the designation of Bright's disease.

It was voted to authorize the Secretary to take ten dollars from our treasury and send to the State Association Secretary for the public health fund.

The meeting adjourned at 4:30 p. m. to meet at Ava Thursday, November 7.

A. C. AMES, M.D., Secretary.

WOMAN'S AUXILIARY TO MISSOURI STATE MEDICAL ASSOCIATION

The following committees have been appointed by the Woman's Auxiliary:

Finance: Mrs. M. P. Overholser, Harrisonville, Chairman. Mrs. John C. Parrish, Vandalia. Mrs. Robert Glynn, Springfield. Mrs. L. O. Rodes, Sikeston. Mrs. Richard L. Sutton, Kansas City.

Legislation: Mrs. George Gellhorn, St. Louis, Chairman.

Education: Mrs. E. T. Gibson, Kansas City, Chairman. Mrs. Evarts A. Graham, St. Louis. Mrs. Guy L. Noyes, Columbia.

The Auxiliary can help in the work of educating the public in the fundamentals of public health, the principles of preventive medicine, and the ethics and ideals of standardized medicine.

Such educational work to be effective and result in improved living conditions, will require much more than newspaper and magazine articles published and circulated by a central committee. All the county groups must help, but to do so the doctors' wives must first educate themselves. Only then can they help to educate their neighbors. Each county auxiliary must organize as an educational agency. The duty of the central committee should be to help, advise, strengthen and supplement the county work.

It is in recognition of this fact that Mrs. Gibson, chairman of the state committee, asks that her committee include all county chairmen of education. All presidents of county auxiliaries therefore are asked to appoint their education committees as soon as possible and to report to Mrs. Gibson the name and address of the chairman. With such co-operation as the central committee is prepared to give, the work of each auxiliary may become a part of a complete, well rounded-out state educational campaign.

The state executive board will hold an all day meeting in St. Louis, Tuesday, October 7. As the new State Capital will be dedicated October 6 and as some of the members of the board come annually to St. Louis during the fall festivities, this date has been chosen. Those whose arrangements will permit them to remain will attend the Veiled Prophet's Ball in the evening as the guests of the local committee.

Organization Notes From County Auxiliaries.

The Woman's Auxiliary of Springfield was the first auxiliary in the state. The preliminary steps were taken during the annual meeting of the State Medical Association in May and formal organization completed May 31. The following officers were elected: President, Mrs. C. B. Elkins. Vice presidents, Mrs. H. A. Lowe, Mrs. J. A. Robertson, Mrs. S. F. Freeman. Secretary, Mrs. W. A. Delzell.

We have had two successful meetings, the last at the home of our president with fifteen members present, also a picnic for our husbands that was much enjoyed. The wives of the doctors have responded splendidly. When the regular meetings begin with our fall work outlined we are sure the rest will join us.

The St. Louis Auxiliary held its organization meeting in the auditorium of the St. Louis Medical Society May 26, about 125 women being present. The constitution and by-laws were adopted and the following officers elected: President, Mrs. W. E. Fischel. First vice president, Mrs. W. McKim Marriott. Second vice president, Mrs. Wm. Engelbach. Third vice president, Mrs. Wm. H. Vogt. Fourth vice president, Mrs. Greenfield Sluder. Recording Secretary, Mrs. H. W. Soper. Corresponding secretary, Mrs. Walter Kirchner. Board of Directors, Mrs. Willard Bartlett, Mrs. Harvey S. McKay, Mrs. Carroll Smith, Mrs. J. V. S. Krebs, Mrs. George Gellhorn, Miss Margaret Shapleigh. Plans have been formulated for active work early in the fall.

The Cape County Auxiliary was organized in Cape Girardeau in May, Mrs. G. B. Schulz, of Cape Girardeau, being elected president, and Miss Irene Seibert, of Jackson, secretary-treasurer. Mrs. W. N. Howard and Mrs. D. I. L. Seabaugh were appointed a committee on constitution and by-laws. Mrs. Schulz attended the national meeting in Chicago as delegate and was elected a member of the state executive board.

Excerpts from a note received from Mrs. W. M. Bickford, of Marshall, president of the Saline County Auxiliary:

We formed our Auxiliary a year and a half ago on July 2 when our new and only hospital was opened. The medical society since the war was not having much display of interest, and it was thought that by forming an auxiliary we could be of assistance to the hospital and the wives could get the doctors out to the medical society meetings and in the habit of going to the hospital. We met once a month, usually at the hospital, and one of our town caterers served us a noon-day luncheon. After a social hour, the men held their clinic or read papers and the women sewed or made surgical dressings. In July we had a picnic and had 47 present. We then voted to become affiliated with the State Auxiliary and elected officers. The women are most enthusiastic about being a part of the state and national organizations. In August we are going to have our meeting at Arrow Rock at the historical tavern. We have invited the Cooper County Medical Society to join us and as the women of Cooper County have not yet organized we feel they may get their start. I am very much interested in the organization, especially since attending the Chicago session.

We have been considering maintaining a charity bed at our hospital but have now decided to wait until we know just what the state auxiliary considers the most necessary work. Our officers are: President, Mrs. W. M. Bickford, Marshall. First vice president, Mrs. James Blackburn, Marshall. Second vice president, Mrs. C. K. Bowles, Marshall. Third vice president, Mrs. Howard Sullivan, Miami. Recording secretary, Mrs. Wm. Harrison, Marshall. Corresponding Secretary, Mrs. W. A. Weltmer, Marshall. Treasurer, Mrs. S. P. Simmons, Marshall.

Mrs. Bickford was present at the Chicago meeting and was elected a member of the state executive board.

The Johnson County Auxiliary held its organization meeting June 5 and elected the following officers: President, Mrs. Harry F. Parker, Warrensburg. Vice president, Mrs. W. J. Bolton, Warrensburg. Secretary-treasurer, Mrs. Edward Andruss, Holden.

Mrs. Harry F. Parker was present at the Chicago meeting and was elected a member of the state executive board.

The acting president of Jackson County Auxiliary, Mrs. R. M. Schaffler, sends the following report:

Our Auxiliary, beginning with a membership of sixty-one, is now organized and ready to take up work this fall. The officers are: President, Mrs. E. H. Skinner. First vice president, Mrs. Robert McE. Schaffler. Second vice president, Mrs. M. A. Hanna. Corresponding secretary, Mrs. Elmer D. Twyman. Treasurer, Mrs. R. L. Sutton. The directors include besides the above officers, Mrs. George E. Bellows, Mrs. P. T. Bohan, Mrs. E. T. Gibson, Mrs. George H. Hoxie, Mrs. George C. Mosher, Mrs. Scott P. Child, Mrs. J. G. Montgomery and Mrs. Lee Miller.

The several committees that have been duly elected and the chairmen, who thus become automatically members of the board of directors, are: Education, Mrs. George H. Hoxie. Finance, Mrs. Harry Berger. Entertainment, Mrs. Sam E. Roberts. Membership, Mrs. C. C. Conover. Legislation, Mrs. Robert Curdy. Besides the original organization meeting in June, we have held two meetings of the directors at which plans and policies were discussed and many practical details were decided upon.

On July 1 the Jefferson City Auxiliary held its organization meeting and the following officers were elected: President, Mrs. F. W. Gillam. First vice president, Mrs. H. W. Maxey. Second vice president, Mrs. S. V. Bedford. Recording secretary, Mrs. Cortez F. Enloe. Corresponding secretary, Miss Dorris. Treasurer, Mrs. C. P. Hough.

Mrs. Gillam acted as secretary of the organization meeting in Chicago and was elected as one of the state vice presidents.

The following report from Audrain County comes from the president of the auxiliary, Mrs. R. Lee Alford, Vandalia:

The organization of the Woman's Auxiliary took place at the call of Dr. R. W. Berry, president of the County Medical Society, in Mexico, June 7. The following officers were elected: President, Mrs. R. Lee Alford, Vandalia. Vice president, Mrs. R. I. Gibbs, Mexico. Secretary-treasurer, Mrs. N. R. Rhodes, Mexico.

From another source comes the news of a very successful joint meeting of the County Medical Society and the Auxiliary on the evening of July 26 at the home of Dr. Alford, of Vandalia. The women held a short business meeting then adjourned to hear the men's program, which included a guest who spoke on a health subject of general interest. Dr. P. P. Burton, president of Pike County Medical Society and Mrs. T. Guy Hetherlin, of Louisiana, appointed as chairman, were present and made plans for the organization of the Pike County Auxiliary on September 23 when there will be a district meeting of physicians at Louisiana.

A delicious supper was served to about fifty guests following the meeting.

Excerpts from a report from the St. Louis County Auxiliary:

We have our constitution and by-laws and have elected the following officers: President, Mrs. Clyde P. Dyer, Webster Groves. Vice president, Mrs. W. H. Townsend, Maplewood. Secretary, Mrs. Otto Schudde, Ferguson. Treasurer, Mrs. Horine Miles, Webster Groves.

We have fourteen members enrolled and are planning a membership drive this fall. Our few members however, are very enthusiastic and anxious for a definite program this winter. The auxiliary has voted to have a meeting at the same time the doctors have their meeting so that members living in the country will be able to attend.

We have had several social affairs this summer in order to get better acquainted. On Saturday, August 17, we had an afternoon and evening together at Spring Lake. It was attended by 12 families, making a party of 36 in all. In the early evening we enjoyed a swim, after which we spread our picnic supper in the woods and later enjoyed dancing to a very good orchestra.

Mrs. M. P. Overholser, of Harrisonville, chairman of organization of the Cass County Auxiliary, has set September 11 as the date for the organization of Cass County Auxiliary to be held at her home.

Through a typographical error the name of Mrs. H. S. Conrad of St. Joseph, failed to appear on the list of the state directors, printed in the July JOURNAL.

Since the last report the following have been appointed county chairmen of organization, a total of 50: Carroll County, Mrs. R. F. Cook, Carrollton. Christian County, Mrs. J. C. Young, Ozark. Clay County, Mrs. W. H. Goodson, Liberty. Clark County, Mrs. R. G. Callihan, Luray. Crawford County, Mrs. W. J. Parker, Steeleville. DeKalb County, Mrs. H. P. Yeater, Maysville. Knox County, Mrs. W. F. O'Connor, Edina. Marion County, Mrs. J. J. Bourn, Hannibal. Oregon County, Mrs. J. L. Eblen, Alton. Pike County, Mrs. T. Guy Hetherlin, Louisiana. Schuyler County, Mrs. A. J. Drake, Lancaster. Stoddard County, Mrs. W. C. Dieckman, Dexter. Webster County, Miss Inez Florence, Marshfield.

BOOK REVIEWS

THE BEAUMONT FOUNDATION LECTURES. SUBJECT: THE ANTIDIABETIC FUNCTIONS OF THE PANCREAS AND THE SUCCESSFUL ISOLATION OF THE ANTIDIABETIC HORMONE—INSULIN. By J. J. R. Macleod, professor of Physiology, University of Toronto, and F. G. Banting, Research Professor, University of Toronto. Series Number Two. Auspices of the Wayne County Medical Society, Detroit, Michigan, 1923. St. Louis: The C. V. Mosby Company. 69p. Price \$1.50. 1924.

The book consists of three Beaumont Foundation Lectures delivered before the Wayne County Medical Society by the authors Drs. J. J. R. Macleod and F. G. Banting. Lectures I and II, delivered by Professor Macleod, deal with the subject of the relation of the pancreas to the digestion and metabolism of carbohydrates and the experimental results from the use of insulin.

The first lecture is most comprehensive in its scope, embracing an historical summary of the work which has been done to establish the relation of the pancreas to the digestion and metabolism of carbohydrates and which ultimately led to the discovery of insulin, the hormone isolated from the Isles of Langerhans. This survey is most complete and is very opportune at this time when the use of insulin is becoming so general in the treatment of diabetes mellitus. The comparative anatomy and physiology of the pancreas is taken up at some length.

In the second lecture, that dealing with the experimental results of insulin, the relation of the secretion of the islet tissue to fat and carbohydrate metabolism is discussed together with the mechanism of the action of insulin and the assay of this hormone.

Beaumont Lecture III was delivered by Professor Banting dealing with the experimental work upon insulin and its use in diabetes. Here we find the early experimental work which led to the isolation of in-

sulin and its practical application in the treatment of diabetes. The treatment of the subject is sufficient to give the clinician a definite working basis for the use of insulin with the necessary precautions stressed to prevent the production of the toxic symptoms resulting from hypoglycemia.

The book is to be highly commended for its succinctness and thoroughness. The authors have omitted nothing necessary for a thorough understanding of the subject. It gives the medical profession at large an insight into the detailed work necessary finally to present to the world this product which is proving so valuable in the treatment of diabetes mellitus. It further stands as a tribute to the fine spirit which has existed among the workers in the laboratory of the University of Toronto.

A. M.

METHODS IN MEDICINE; The Manual of the Medical Service of George Dock, M. D., Sc. D. Formerly Professor of Medicine, Washington University School of Medicine; formerly Physician-in-Chief Robert A. Barnes Hospital, St. Louis. By George R. Herrmann, M. D., Ph. D., Instructor in Medicine, University of Michigan; formerly Resident Physician Robert A. Barnes Hospital, St. Louis, etc. Illustrated. St. Louis: The C. V. Mosby Company. 1923. 521p. Price \$6.50.

Dr. Herrmann has well exemplified the modern trend by combining in his manual the many features of the medical service of a modern teaching hospital.

While there is nothing essentially new in the book and little that cannot be found scattered here and there in many other books and laboratory manuals, the arrangement and completeness of the volume make it worth while.

The book is divided into five parts, each of which has its own function, and all together combining under one cover an invaluable guide for the intern or director of a modern hospital, be it large or small. At the same time the book serves as a readily available index for the general practitioner, though parts of sections one and five are superfluous for the latter.

Part 1 deals with the routine duties of the medical house staff of the Barnes Hospital, a routine that could well be copied by other institutions, and includes the simple routine laboratory procedures that are a daily necessity not only in a hospital but in the private laboratory of the practicing physician.

Part 2 gives detailed instructions for the special laboratory procedures now essential in a complete study by the internist.

An excellent though brief exposition of the dietetic management of disease makes up part 3.

The diversified part 4 contains such as "Emergency Measures" and "Treatment of Poisonings," "Management of Infectious Diseases," and "Dock's Twenty Drugs."

Part 5 concludes the book with more than 75 pages of graphic charts illustrative of all the common types of disease seen on a general medical service. The index is brief but adequate. So many books recently published can be characterized as "just another book," that it is refreshing to review Dr. Herrmann's work and be able to say truthfully that it meets a real need.

A. E. S.

THE EVOLUTION AND SIGNIFICANCE OF THE MODERN PUBLIC HEALTH CAMPAIGN. By C. E. A. Winslow, Dr. P. H., Professor of Public Health, Yale School of Medicine, New Haven. Yale University Press. 1923. Price \$1.50.

Public health and preventive medicine are beginning to receive the attention and publicity they deserve. As brought out in this work it is all a part of medical progress. There is noted a distinct de-

parture from the narrow individualism and exclusiveness of many investigators and scientists of the past; a broadening out into a consideration of general public interest, formerly lost in an adverse environment and the ravages of present but little understood disease.

Significant is it that the public health movement is not only aiding society at large in its every phase of physical and mental development, but is enlarging the scope and relationships of the medical field. Winslow calls our attention to the relation of "public health" to chemistry, bacteriology, engineering, physiology and sociology, "everyone of which is related to medicine in its broadest sense." Upon these basic sciences, he adds, "a community program of service is being built up."

The author calls our attention to the fact that at one time at the height of Grecian culture specific consideration was given to public health, in that heredity, the environment and the physical and mental condition of every child were made matters of legal and moral regulation and restriction. Likewise, early in Roman history definite sanitary regulations were enacted to guard the water supply, by extensive aqueducts and proper housing, sewage disposal, purity of foods and the protection of its citizens against certain social nuisances and dangers.

Winslow demonstrates, however, that the real awakening of human society to its opportunity and responsibility in health matters was in the first half of the 19th century; that then was born a true scientific spirit and humanitarianism. This was made possible by the results of scientific research in the previous century of the remarkable group of thinkers and experimenters, viz., Priestley, Lavoisier, Franklin, Galvani, Linnaeus, Spallanzani, Hunter, Laplace and the Herschels, who contributed for all time. And in England especially did such men as Dr. Richard Mead, Sir Christopher Wren and Sir George Baker, contribute in the latter half of the 18th century a great impetus in matters pertaining to better ventilation, the prevention of contagion and the danger of certain water supplies, and such epoch achievement as that of Captain Cooke, who in 1776 was awarded the Copley Medal for his care of a crew of 118 men on a three year voyage with a loss of only one man, when scurvy was both common and malignant, set the relation of diet to health far ahead.

Simon, of London, who in 1855 was made Central Medical Officer to the General Board of Health, in a technical career of 21 years, contributed largely to the organization of sanitation upon a broad and practical basis, by securing parliamentary enactment of laws and against preventable disease. But further and more important it was this same health officer who developed public opinion in favor of scientific methods being applied in the fight against "dirt." Something very much needed today in our moral retrogression is a reawakening of public opinion against "dirt" in its every phase.

Winslow further reviews the work and indefatigable researches of Pasteur, who in his 30 years of study of bacteria and their part in the production of fermentation and disease, contributed to the welfare of mankind more probably than any other single man in history. Pasteur, let it be remarked, was a true scientist, the standard bearer in preventive medicine and a liver of the truths of the great human idealist, Christ.

In the chapter, *The Golden Age of Bacteriology*, Winslow reviews the influence of Pasteur upon modern medical men, showing the ready response of Americans, such as Burrill at The University of Illinois in the seventies; Surgeon General Sternberg, Welch, of Baltimore; Formad and Abbott of Philadelphia; and others making active research in the

middle '80's. Likewise the state boards of health of Massachusetts, New York, Rhode Island and Michigan, and the leading laboratory workers and health officers of New York City, Boston, Providence, Cincinnati and Chicago soon had their interest and active support awakened to the practical side of bacteriology in the causation of disease and the spread of epidemics in congested areas of population.

But the epoch making contribution to modern human welfare was the unselfish and self-sacrificing investigations and dangerous experimenting carried on by a group of young epidemiologists and pathologists, in the last half of the 19th century, who worked under the most adverse conditions, seeking the causation of malaria, yellow fever, the plague, typhus and typhoid. The results, with the unfortunate deaths of many of these heroes, revealed as only intimated before, the part water and insects play in the transmission of disease. But it was in the further clear demonstration that with the discovery of the cause and the carriers of infective organisms, specific diseases can be prevented.

The miracle in the digging of the Panama Canal by Americans and its return to the United States of millions of dollars in tolls, was performed by Reed, Carroll, Lazear and other unselfish servants to society, who like Christ and Pasteur worked in constant contact with divine, natural law, and thus revealed truth.

Winslow in speaking of the new public health movement notes the part taken by the government, many national, state and civic organizations and by the medical profession itself. The campaign now is one largely of prevention. The question of the cause of smallpox is not important. Typhoid and tubercle bacilli are common wherever man is. But their pathogenesis can and must be prevented from now on. Syphilis and gonorrhea are not inevitable. Society and the medical profession have it within their knowledge and power to clear civilization of most infectious diseases. It is simply a question as to whether intelligent man desires to live upon a clean plane of thought and activity or would rather enjoy a dip, occasionally, in the slough of despond and the opportunity to at times smell the effluvia of the Augean Stables of tradition. Winslow says it is up to and within the hands of the medical profession to effect the change. In other words, it is just a matter of educating the public.

S. P. C.

JACK-KNIFE POSITION AFTER HERNIA OPERATIONS.

—The posture of the patient after an operation for hernia is usually neglected. If surgeons realized that they could reduce their recurrences materially, besides adding to the comfort of their patients, the jack-knife position would become a matter of routine for inguinal, femoral, umbilical and ventral hernias which presented difficulties in closing the fascial layers.

In inguinal hernia operations the best exposure is obtained by keeping the thigh extended until the deep sutures are ready to be tied, when it should be elevated, adducted and rotated inward. This reduces the distance between Poupart's ligament, the internal oblique and conjoined tendon from 25 to 50 per cent., depending on the size of the opening, the variety of hernia, and the development of the muscles. After the patient is returned to bed his knees and shoulders should be elevated 25 to 45 degrees by means of pillows and a back rest. This position takes the strain off of the stitches during the process of repair, permits a broad firm union of fascial flaps, and reduces the percentage of recurrences. The jack-knife posture should be maintained as long as the patient stays in bed.—LEIGH F. WATSON, *Annals of Surgery*, August, 1924, lxxx, p. 239-241.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

Volume XXI

ST. LOUIS, MO., OCTOBER, 1924.

NUMBER 10

E. J. GOODWIN, M. D., EDITOR
901 Missouri Theatre Building, St. Louis, Mo.

PUBLICATION { W. H. BREUER, M. D., Chairman
COMMITTEE { C. B. FRANCISCO, M. D.
M. A. BLISS, M. D.

ORIGINAL ARTICLES

LOCALIZATION OF BRAIN TUMORS BY INJECTION OF AIR INTO THE VENTRICLES OF THE BRAIN*

W. E. DANDY, M.D.

BALTIMORE, MARYLAND

My subject is a somewhat difficult phase of brain tumors, but before going into that I would like to say a few words about brain tumors in general. There is a general feeling, which I have shared in the past, that neurology and brain surgery represent a very difficult and very barren field. Much of that impression is due to the lack of an intimate acquaintance with the subject. There is a veil around neurology and neuro-surgery which I am sure when it is pierced by the light of facts will be sufficiently dispelled so that we will see an entirely different field, one with a great deal of hope and with brilliant results. It is not all to be determined by the specialist. To a very large extent the diagnosis of brain tumors is a matter of common sense and judgment.

What are the facts about brain tumors and brain surgery? First, brain tumors are very common lesions. That is enough to stimulate our interest in them. Second, the diagnosis of brain tumors is always possible and in a large number of cases not difficult. Third, the localization of brain tumors is always possible. Fourth, there is only one form of treatment for brain tumor, namely, extirpation of the tumor. Fifth, the results we will get in the removal of brain tumors are in proportion to the time at which the diagnosis and localization are made.

The importance of an early diagnosis and early treatment of brain tumors is really just the same in principle as the early diagnosis and treatment of acute abdominal conditions about which we have heard this morning. If brain tumors come early, the results will be infinitely better than if they arrive late. The extirpation of a considerable percentage of tumors of the brain is possible, but as time goes

on and they reach the late stage of their growth, the chances of leaving a whole individual diminish.

Probably 50 per cent of all brain tumors can be diagnosed by one who is skilled in the finer points of neurological diagnosis and who has had a thorough acquaintance with neurology and neuro-surgery. We must think in terms of brain tumors and realize that brain tumors are very frequent lesions affecting the central nervous system between the ages of two and sixty.

Brain tumors give rise to two kinds of symptoms, those of pressure and those of localization. Since the skull is a closed box, the tumor growing within has not enough room and can only be accommodated partially and at best with marked symptoms of its pressure. These pressure symptoms are fairly characteristic—headache, vomiting, choked disc. The detection of choked disc is not difficult but requires experience in interpretation. Since tumors most frequently cause headache and vomiting, the burden of proof rests on one who disregards the diagnosis of brain tumor; moreover, brain tumor is by far the most common lesion to give rise to these symptoms, just as in acute abdomen the appendix is the lesion which we consider first.

In the early stages of a tumor's growth there may only be headache, or at times only vomiting (without headache) and choked disc; but this is the important stage for the patient's welfare. If you *suspect* a diagnosis of brain tumor and can then make the localization before paralysis or aphasia develop, a perfectly well patient can often be saved, whereas at a later period the tumor would be hopeless.

As tumors grow they gradually encroach upon those parts of the brain which give localizing symptoms. The reason localizing symptoms are so uncommon early is because of the great silent areas of the brain, but when the tumor passes these bounds and enters parts of the brain having function, paralysis, loss of vision, loss of smell and hearing, convulsions, staggering gait and other manifestations with which you are all familiar, are the result.

In those cases which we cannot localize by neurological and roentgenological examina-

*Read before the Sixty-Seventh Annual Meeting, Missouri State Medical Association, Springfield, May 6, 7, 8, 1924.

tions, we now have the procedure of injecting air into the brain both for diagnosis and localization. This procedure is in principle similar to that in use in urological diagnoses. The fluid-containing spaces in the brain are filled with something which will throw a shadow in the X-ray. This something is a gas which has a lesser density than the fluid removed, whereas in urological diagnosis a solution is used which throws an opaque shadow. As a preliminary to the injection of air, an opening must be made in the skull on both sides so that either lateral ventricle can be reached by a ventricular needle. Fluid is then aspirated and exactly the same amount of air is injected in its stead. The air can be moved through the entire ventricular system in such a way that any part which you desire to see can be thrown as a shadow on the X-ray plate. It is therefore clear that given distorted shadows of the ventricles and comparing them with the normal we can make a localization of the tumor which is causing this disturbance. All brain tumors which give rise to pressure symptoms will cause a change in size, shape or position of part or all of the cerebral ventricles and the interpretation of these changes leads to an accurate localization of the lesion.

I will now show a series of lantern slides. About 50 per cent of brain tumors can be localized by a neurological examination and about 15 per cent more can be localized with the X-ray without air injections. Such X-ray changes are: (1) deposits of calcium in tumors; (2) change in vascularity of the blood vessels of the skull, and (3) localized and more or less generalized destruction of the inner table of the skull. In the remaining 35 per cent the injections of air can alone make the localization. It is a dangerous procedure and should be used only when necessary.

3021 Arunah Avenue.

DISCUSSION

DR. W. T. COUGHLIN, St. Louis: To be asked to open the discussion of Doctor Dandy's paper is quite an honor. Doctor Dandy is probably the best known neurologic surgeon in the world. There is no question but that he has done some very wonderful work in surgery and his development of this method of diagnosis is truly amazing. I have had some experience with it, but I have always done so with some trepidation. However, I am very well satisfied from what I have learned of it that it has undoubted possibilities.

The Doctor stressed the point that these patients are going to die unless something is done for them. Patients with brain tumor before the advent of surgery have all died of their malady, so anything that can aid us in making a diagnosis I think should be used. There is a time, however, in the history of tumor of the brain when diagnosis is impossible. At the very beginning of things that tumor is in a silent area and then I think it is quite impossible to come to any conclusion as to where it is. Diag-

nosis of brain tumor may be made, but its localization at such a stage will perhaps be an impossibility. But there comes a time, as Doctor Dandy says, when all brain tumors can be localized and that is of very great value if it is so. You have seen the experience that Doctor Dandy brings to this thing. You have seen from the large number of slides he has shown that there are many factors that enter into the work to enable a person to properly interpret what he sees. To many of you there was nothing to be seen in certain of these pictures; but to Doctor Dandy there is something definite in each and all of them. That readiness to interpret, that skill in interpretation, can come only with prolonged experience. First there must be a visualizing of the normal ventricular system. Not only must the surgeon have that, but also the X-ray man must have great experience in taking pictures of the head. These requisites are not accessible to all of us. It is a very difficult matter sometimes to get the proper co-operation, the expert co-operation of all concerned in the work. Doctor Dandy has all that at his disposal as Professor of Neuro-Surgery at Johns Hopkins.

The question was asked me, "If you had a tumor in your head would you want them to inject air and make an X-ray picture?" That is a poser. I said that I probably would not know much about it because when one has a tumor in his brain he is not in condition to think for himself. There is no question in my mind that it is the thing to be done only when every other means at our disposal has failed, but I believe it certainly has its use in cases where we cannot arrive at a conclusion in any other way, and I intend to continue to resort to it.

DR. ERNEST SACHS, St. Louis: I have enjoyed this impressive demonstration of Dr. Dandy and there are one or two points I would like to stress which, probably on account of time, he did not go into.

I have used the method since he advised it in 1918 and I have had a number of cases in which there were deformities of the ventricle which subsequently proved to be anatomical variations not due to tumor. That is one very important point to my mind to keep before us in using this method.

Another point that I think is of great interest is this: Whereas I agree with Dr. Dandy in the general principle that when you can remove a tumor you should try to do so, there are cases in which the tumor is located in what we consider an inaccessible area, and there are also cases in which no localization is possible either by air injection or neurological examination; then one is faced with the problem what it is best to do. To give a specific instance: It so happens that I have had three patients in the last month with choked disc and headache in whom air injection showed no deformity of the ventricle. How are you going to deal with such a case? In my opinion, in a case of that sort, a palliative procedure trying to save the eyesight by a decompression is distinctly indicated. Dr. Dandy in his publications has on several occasions expressed the view that he considered decompression purely a palliative procedure and a method that should not be used. I differ with him on that point. I have seen cases that have been benefited by this palliative procedure and I feel convinced that it has a distinct field.

Then again, one sees an instance of this sort: Some months ago I had a case of a woman with a tumor in her speech center. The diagnosis was simple. At operation the tumor was found in that location. To have removed that tumor would have meant that she would have been totally aphasic. To leave a patient with a total aphasia to my mind is the worst thing you can do and in cases of that sort I believe it is better to resort to palliative procedure

than to attempt a radical extirpation. In that particular case up to this time deep X-ray therapy has accomplished more than extirpation would have done. She has her speech and her symptoms have thus far entirely cleared up.

DR. WILLIAM RIENHOFF, Springfield: After listening with the greatest interest to Dr. Dandy's clear, precise and convincing presentation of his subject, I should like to make a few remarks which, though perhaps not pertaining strictly to the matter under discussion, but relating to the frequently mentioned disease picture, hydrocephalus, yet may, in the light of what has been said, be of interest to the general practitioner at this time, especially in so far as the etiology of the acquired form of hydrocephalus is concerned.

It is through the writings of Dr. Dandy more than to any other that our knowledge of hydrocephalus, both as to its anatomical features and its mechanical workings, has received a satisfactory explanation. His division of hydrocephalus into the obstructive variety, in which the obstruction lies within the ventricles themselves (including the foramina of Luschka and that of Magendie), and the communicating variety in which the obstruction lies in the subarachnoid spaces, has greatly cleared our understanding of the clinical features of varieties of hydrocephalus having otherwise an apparently uniform disease picture.

The etiology of each type had been heretofore considered equally obscure. The pathologic anatomical findings in the communicating variety, in both the congenital and acquired form, have, however, suggested a plausible cause of this type. The obstruction of the various basal cysterns, with more or less dense adhesions, especially in the region of the medulla and cerebellum, sometimes covering the whole base, even completely binding the tentorium to the posterior surface of the occipital lobes, create, almost by necessity, the assumption of a prenatal or postnatal basal meningitis.

My remarks are here directed only to the etiology of the postnatal communicating type of hydrocephalus.

During the last four or five years and after my attention had been drawn to this subject through Dr. Dandy's writings, I have met with two cases in infants, apparently quite healthy at birth, both becoming infected with gonorrheal ophthalmia, and also an infection of the umbilical stump. After they had apparently recovered, with some remaining cornea opacities, they continued to have fever of an obscure nature and later both developed what resulted as a fatal hydrocephalus. These two observations might, no doubt, be multiplied many times if statistics were available from observations made by general practitioners.

Such observations almost force upon us the conclusion that the cases of hydrocephalus here mentioned were of the acquired communicating type brought about by adhesions due to a previous basal meningitis, which in turn was caused by a primary umbilical or ophthalmic infection. In the light of such observations it appears that emphasis should be laid upon the necessity for guarding the young child against umbilical and ophthalmic infections, not alone for the sake of these organs, but also because of the possibility of subsequent meningitis with ultimate hydrocephalus.

As to the treatment of such cases, it is evident that by ventricular or spinal punctures, or similar undertakings, the purely obstructive cases of hydrocephalus offer, at least theoretically, a reasonable means of removing an existing obstruction, but in the cases in question the relief offered would be temporary only. For the choroid plexus continuing

the secretion of ventricular fluid and the ventricles continuing to let it pass into the subarachnoid spaces, while the adhesions continuing to prevent its absorption would cause a backing up and an accumulation in the ventricles, thereby keeping the brain from receiving whatever necessary function the ventricular fluid might possess. It might be possible, however, by so skillful a surgeon as Dr. Dandy, to lift up the brain and separate the adhesions, thereby restoring more or less the circulation and absorption, and so effect a permanent cure or improvement of the acquired communicating type of hydrocephalus.

DR. W. E. DANDY, closing: The subject is so comprehensive and our time so limited that much must be left unsaid.

I am glad to answer Doctor Unterberg's inquiry about the cause of danger in air injections. It is due to the fact that the air is a foreign intruder acting exactly, though less severely, as if you were to introduce a mild acid or alkali. The ventricular walls are irritated; and unless the air can escape along its normal channels, it must be removed. Otherwise serious trouble, even death, will result. There have been many deaths from air, and I feel that unless the procedure is used cautiously it does more harm than good. But if it is used judiciously there is little danger. I have had no deaths since the first 50 cases.

How does the air get out? If the ventricles are normal and not blocked, it will escape into the subarachnoid space and there be absorbed just as the fluid is.

Doctor Sachs and Doctor Unterberg mentioned errors in the localization of brain tumors from the use of air. There will always be mistakes in interpretation, but those are mistakes of the individual. Doctor Sachs spoke of a case which is one of those vague lesions, not yet understood, but which should certainly be left alone. There is nothing which a decompression can do to save the patient from blindness. It is not pressure that is causing the trouble. I am not opposed to decompression as Doctor Sachs suggests. I am opposed to decompressions as primary treatment. By that I mean that a decompression should never be done until it was known that the tumor could not be removed. But, knowing that the tumor was not removable, then the largest decompression possible should be made. Decompressions are so often harmful instead of helpful. For example, in cerebellar tumor you get no relief from decompression; in cerebral tumor you do.

The important aim in brain surgery is to remove all tumors that can possibly be removed. Air injections help to find these tumors and reduce the operative effort to the minimum. If the tumor can be removed, exert every effort to give the patient the only chance of life. If it cannot be removed, then give him the maximum decompression for comfort.

CARCINOMA OF THE BREAST WITH PLEURAL AND PULMONARY METASTASIS*

M. J. OWENS, M.D.

KANSAS CITY, MO.

In the time allotted here it is not my intention to discuss all of the phases of mammary carcinoma, the individual types with their individual tendency toward metastasis, or the operative treatment or technique, but rather to confine myself to the discussion of carcinoma of the

*Read before the Kansas City Academy of Medicine, December 14, 1923.

mammary gland in general and its tendency to intrathoracic metastasis.

To begin, I wish to call attention to the routes which investigators in general have conceded to be the most probable through which carcinoma travels on its way to adjacent viscera, namely through lymphatic and blood vessels. Transmission by blood stream is rare, of embolic type and I think we need not discuss it here. Since lymphatic vessels and nodes have so largely to do with metastatic implantation it seems well to call attention, briefly, to their anatomical arrangement.

The lymph nodes receiving afferent vessels from the breast are axillary, both sides, retrosternal, retropectoral and supraclavicular, or deep cervical. The course of mammary lymphatic vessels passing to these several groups of nodes is a much disputed question. However, they more or less directly communicate through the cutaneous, those of the perithoracic and intercostal channels. Of these the cutaneous are most important and to the cutaneous the mammary gland lymphatics proper are thought to be tributary. Drainage into the deeper channels is said by Delamere and Sappey to be subsidiary under normal conditions.

The cutaneous channels are said by Poirner to arise in two main trunks from the central subareolar plexus, run above and below the areola and turn transversely outward to reach the axillary nodes, some passing over the clavicle to supraclavicular nodes and trunks passing from one gland to the other, anastomosing with those of the opposite side. Accessory channels emerge from the periphery of the gland and go to axillary, subclavian or retrosternal groups of nodes.

Crossman found in 10 per cent of cases studied a lymphatic trunk that arose from the under surface of the breast, perforated the pectoralis major and passed between the two pectoral muscles to the subclavian nodes. (I have found this at least two times myself, in cases with well advanced lymphatic involvement.)

However, clinical and pathological evidence seems to indicate that dissemination of mammary carcinoma occurs principally by way of the vessels contained in the deep fascia. We must be guided in determining operability by the condition of axillary, retropectoral and supraclavicular glands of the same side and too frequently we overlook involvement of the same glands on the opposite side.

Handley says that cancer spreads centrifugally in all directions, along the plane of the deep fascia, upward into the cutaneous and downward into the subadjacent structure, principally through the medium-sized lymph vessels, the small ones preventing escape of cancer cells, the larger ones having to do with trans-

portation of cancer cells to remote structures. He says that cancer cells are transported by pressure from behind due to multiplication of cancer cells, rather than by any other form of visatargo. That perilymphatic fibrosis is thought to produce stasis and development later of nodules along the course of lymph channels.

Deaver and McFarland claim that metastases occur earlier in young and in fat women because of the richness of lymph vessels in such individuals.

Trauma is an exciting cause of early metastasis and no doubt some of you can recall experiences in which excision of tumor for examination, as in one of my cases, has precipitated rapid development and metastasis. Fink says that in the average mammary carcinoma, axillary nodes are involved after six months, always after 13 months and long before the glands are palpably enlarged. That general dissemination may be expected 15 months after axillary node involvement is manifest.

Handley says that transpleural implantation occurs from proximity of primary growth or from infiltration from involved supraclavicular glands.

Williams states that visceral metastases may be present in the entire absence of palpable lymph node involvement and that a negative axilla is not incompatible with wide spread metastasis.

Bull estimated that 65 per cent of cases when first seen by the surgeon have lymph node involvement.

First in frequency of metastatic involvement comes the liver and second the pleura and lungs, the latter being invaded as a rule by direct extension from the former. As stated above, this occurs by direct extension of the cancer cells from the primary growth through the intercostal spaces or from the supraclavicular lymph nodes when the latter come in contact with the apical portion of the parietal pleura.

Symptomatology. The onset of pleural and lung involvement is as a rule gradual and the general appearance of the individual may be in no way an index to the seriousness or extent of invasion of the thoracic cavity. Nutrition and color may be good and invasion may exist six or eight months or longer before cachexia or other signs are apparent. Location of invasion has much to do with the symptoms and pressure from invasion is less manifest when the growth is in the lung proper than when in the hilus or pleura. Dyspnea, cough, pressure symptoms and pain occur in the sequence named. Dyspnea is the most constant and progressive and pain the least common symptom.

Diagnosis. The above accompanied by areas of abnormal dullness or resonance in an individual known to have a primary growth,

coupled usually with definite areas of involvement as shown by X-ray or the presence of bloody fluid on exploratory puncture of the pleural cavity, particularly in an elderly individual, complete a picture which is scarcely ever found to be other than cancer.

If, as seems to be a pretty well established fact, cancer exists in axillary nodes six months after primary growths in the breast and if these glands are cancerous for several months before they are palpably enlarged and if after 15 months wide dissemination may have occurred, is it not safe to assume that many times radical operations for removal of visible or palpable growths are done when there already exists involvement of pleura, lung or other inoperable viscera.

The point I wish to emphasize is that more care should be exercised in the choosing of risks for operation in the hope that cases having an already existing metastatic implantation in pleura, lungs, liver or mediastinum, may be detected as such and spared the ordeal of an operation which can, at best, prolong the life of the individual only a short time and perhaps minimize not at all his suffering. Two of the cases here tabulated I am sure had thoracic involvement at the time radical operation was done. These operations might not have been done had due care been exercised to ascertain the presence of inoperable metastases. One of my own, another operated elsewhere.

Treatment. At present X-ray or radium is the only known means by which pleural or pulmonary carcinoma may be benefited. I do not say cured, although Dr. Crile told me about a year ago of a case of his which had evidently been cured of cancer of the lung. At autopsy no cancer was found, but death was presumed to have resulted from extreme fibrosis of lung due to heavy doses of X-ray.

Osgood says, "Success of X-ray treatment depends primarily on administration of a lethal dose to the site of the lesion, the dose to be given en masse and not fractionally. Sublethal dosage may produce inhibition but may later result in a compensatory increase in the activity, the progress of the growth being much more active than if untreated. Prolonged sublethal dosage may produce an immunity to the ray. This fact may account for the rapid growth and metastasis of what was apparently a clinically cured cancer and on which subsequent radiation may have no effect."

Reactions to X-ray constitute a drawback in some individuals to the administration of so-called lethal doses. These have been termed "toxic" due to breaking down of tissue and occur three to six days after exposure and X-ray sickness due to change in the blood, manifested by nausea, vomiting, and extreme weakness. I have had patients complain of

both of these after exposure to either X-ray or radium.

Case 1. Miss H. H. Age 45. School teacher. April 12, 1923. Four years ago noticed a lump in right breast. Soon after was operated on, radical operation being done. Axillary glands removed. Immediately following healing of wound had three and one-half hours of X-ray. Twenty months ago had one hour of X-ray and twelve hours of radium. Fifteen months ago had three hours a day for five months. Five months ago had seven hours of X-ray. One month ago at the Mayo Clinic took a course of X-ray and radium. In the meantime had been treated by violet ray by two different physicians. At the present time right arm is enormously swollen from hand to and including the shoulder. There is a mass of what appears to be infiltrated glands about the clavicle. X-ray shows an area of consolidation in the apex of the right lung extending downward into the lung substance for a distance of about two inches. There is some cloudiness shown on the lateral wall of the chest, evidently in the pleura. Diaphragm is much higher on the right and the dome shape obliterated by involvement along its lateral and posterior insertion.

This patient came to see me with the idea of having her arm amputated at the shoulder, but because of findings in the chest thought to be carcinoma, I advised her to have no operation.

Case 2. Mrs. M. Age 42. Entered St. Margaret's Hospital on June 18, 1922, with the following history: Two months before, first noticed enlargement of the right breast. Thought the trouble due to irritation from lactation. She had been nursing a baby for eleven months and continued to nurse the baby until one month ago. On examination find both breasts very large. The skin over the right feels leathery and tense. There are several nodular elevations about the right nipple and extend down toward the base on the under side of the gland. The axillary and supraclavicular glands are enlarged on this side. The left breast has a similar consistency. There is no palpable enlargement of the axillary or supraclavicular glands. Operation on June 20th. Radical operation right side, removing pectoral muscles, axillary, infra and supraclavicular glands. June 26th, same operation on the left side.

Pathological Report.—There is extensive tumor infiltration throughout the breast consisting mostly of irregular nests of epithelial cells that tend to show mucoid change. Cells infiltrate the tissue in every direction. They vary markedly in shape and size and infiltrate the skin about the nipple. There is a very abnormal infiltration of the epidermis which in some places suggest an epithelioma. All lymph nodes examined are infiltrated with tumor tissue.

Diagnosis.—Mucoid carcinoma of both breasts with metastasis to the axillary and supraclavicular lymph nodes. Encephaloid type of growth in both breasts.

Immediately following healing of the wounds, intensive X-ray treatment begun and carried on during her stay in the hospital and during a period of three months following. Three months after operation she began to have pain in both legs followed a little later by complete paralysis from the waist down. She was brought to the hospital on a stretcher. Complained of pain in the right chest, cough and shortness of breath. Physical examination shows almost complete consolidation of the entire right lung. No X-ray taken of chest. She died about three months later of metastatic carcinoma of the lung with metastasis also in the vertebra.

Case 3. Mrs. Annie O. Age 52. Entered St. Mary's Hospital June 12, 1921. First noticed lump in right breast four weeks before. No pain. On examination

there is found in the upper quadrant of the right breast a firm mass size of an egg adherent to underlying muscles and not movable. Definitely palpable glands in right axilla.

Operation.—Hard tumor in upper outer quadrant of right breast involving skin along the lower border of pectoralis major muscle. Numerous glands in axilla. No subclavian. Breast, including pectoral muscle and axillary gland, was removed. Discharged June 22nd, wound healed. X-ray treatment instituted on June 30th and stopped on July 22nd. Was thought at the time to be insufficient, but patient refused further X-ray treatment because she felt that she was well. Disappeared from my observation on the 22nd of July, 1921, and I saw nothing of her again until the 26th day of July, 1923. During this time she had been treated by various doctors for chronic bronchitis, etc. She came to my office complaining of extreme shortness of breath on exertion and inability to lie down to sleep.

Physical examination.—Find what appears to be a complete consolidation of the right half of the thorax. X-ray picture at that time shows an infiltration in both lung fields. This infiltration is most diffuse on the right and practically amounts to a solidification in the apical region. It is nodular in character. The right diaphragm shows a very little excursion apparently being drawn up and immobilized by adhesions to the lung.

She died three weeks later from metastatic carcinoma of both lungs.

Case 4. Mary L. Age 34. First noticed a lump in breast in September, 1921. On December 26, 1921, tumor was excised for examination. She was told it was a non-malignant tumor, a fibroma. One week after this excision breast began to enlarge and after four weeks was several times its normal size. In February, 1922, radical operation was done. No pathological report available. Operation was followed by intensive treatment by X-ray and radium for a period of four months. Breaking down of axillary tissue occurred from exposure to radium. After six months recurrence was noted in skin of chest and a mass noted above the left clavicle. She saw several surgeons, all of whom refused to do further operative procedure and she continued taking treatment by X-ray until thirteen weeks before she died. I saw her ten weeks before she died. She had at that time severe pain in right thigh, attacks of periodical pain in the epigastrium accompanied by vomiting and attacks of dyspnea on exertion. On examination I found a brawny thickening of skin of area surrounding site of operation. Enlargement of supraclavicular glands. A mass size of grapefruit in the epigastrium evidently connected with right lobe of the liver. No tumor mass could be outlined in thigh or bones of pelvis. X-ray of chest showed three areas of density in the right lung. These are sharply circumscribed. One the size of hen egg in upper or middle lobe, another about the same size near the periphery of the lower lobe and one much larger near the hilus. The pleura in her case seemed normal. This patient on account of pressure on duodenum from mass in liver had persistent vomiting and died of inanition.

818 Rialto Building.

INSULIN AND DIET IN DIABETES

F. NEUHOF, M.D.

ST. LOUIS

The therapeutic use of insulin in diabetes has in no way supplanted the dietetic treatment

of that disease. The two must be employed simultaneously. However, one can use insulin in connection with many different diet schemes. Different clinicians treat diabetes successfully by combining the administration of insulin with a diet identical with, or having the general characteristics of, the diet to which they were partial in pre-insulin days. Allen treats diabetes using insulin in connection with a low calorie diet in which the fat constituent is kept at a minimum. Joslin combines the use of insulin with his ingenious test and maintenance diets, calculated to keep the patient in a degree of moderate undernourishment. Woodyatt, when he took up insulin, still adhered to the well known Woodyatt diet distinguished by its low protein factor and a fat constituent as high as the glucose tolerance of the patient will allow without danger of acidosis. Van Noorden, the well known German authority on diabetes, now treats that disease by the combination of insulin with his relatively high proteid, moderately high carbohydrate and low fat diet which was much in vogue the world over before Allen revolutionized the treatment of diabetes in 1914. The details of the methods of treating diabetes by insulin and diet as practised by American authors on the subject can be obtained by consulting the journals of the United States and Canada, within easy reach of English speaking physicians. Van Noorden's articles, having been printed in German, are not so accessible to the American profession.

I have, therefore, translated the salient points of an article by Van Noorden, published in the April number of the *Klinische Wochenschrift*. He starts the cure by three to six weeks of low diet intended to improve the sugar metabolism. For the first two days he gives every 24 hours, 1 to 1.2 g. protein for every kilo body weight of the patient, together with 100 g. bread. Then comes a fast day, in bed. After that comes an egg day (5 eggs with 300-400 g. green vegetables and 80 g. fat.) On the following day insulin is started. Small doses are given at mid-day and in the evening. Thereafter insulin and diet are increased simultaneously. The amounts of the proteid, the fat, and the carbohydrate, as well as the insulin dosage must be adjusted to the peculiarity of each case. Every 5th or 7th day is made a fast, an egg, or a vegetable day, on which day only a morning dose of insulin is given. On the following day insulin is resumed before the midday meal, or perhaps not until before the evening meal. After several weeks of this course the case has usually progressed to the diet which the patient can continue unchanged even after having gone home. As a rule it consists of the following food compounds for every 24 hours: 80-100 g. bread or equivalent and 1-2 g. proteid for

each kilo body weight. Cooked green leaf and stem vegetables which are added to the diet are not figured in the allowance because they lose nearly all their carbohydrates in the cooking. Van Noorden has observed that tomatoes, lettuce, radishes, endive, cucumbers, onions and the like have less effect on the glycosuria when eaten raw than when taken cooked. This may be due to the fact that in the raw state they contain active insulin-like bodies. Concerning onions this has in fact been proved.

Van Noorden has observed that 2 or 3 weeks of insulin therapy improves not only the patient's sugar tolerance, but his albumin tolerance as well. This will permit of a more liberal diet, which he considers a distinct benefit, as a poor protein diet is good for the glycosuria but bad for the patient. With this in view Van Noorden, when possible, includes in the schedule of treatment 5 or 6 day periods containing daily 120-150 g. albumin with much fat but no carbohydrate. On these days only very small doses of insulin are required. The possibility of getting along on these days with little insulin is deemed an advantage as it is important at all times to use insulin as sparingly as possible, thus avoiding too great dependence on the drug. Van Noorden thinks that large doses, after their immediate effect has worn off, tend to produce a reactionary hyperglycemia and glycosuria which impel one to use larger and larger doses.

Refractory Period. Van Noorden has observed that patients, who for a time have been kept sugar free on a fixed diet and fixed insulin doses, may suddenly suffer a recurrence of glycosuria and hyperglycemia against which even double or treble doses of insulin are powerless. These periods may be only temporary. Sometimes they are permanent. Van Noorden is inclined to think it just as well to stop insulin altogether during these refractory symptoms, as it is powerless any way.

Edema. Edema sometimes follows insulin treatment. It can be avoided by the employment of a salt poor diet with an occasional salt free day and the use of mineral waters containing potassium carbonate instead of sodium bicarbonate.

COMMENT.

Much clinical experience concerning insulin treatment has been published by American writers. But the field is large and by no means exhausted. Van Noorden views the subject from another angle and draws conclusions somewhat at variance with what we have been taught. His opinions are based on experience drawn from a clinic in which he uses on an average of 2,000 units of insulin daily.

We have not been able to thoroughly test all of his conclusions. The refractory periods

he speaks of have been encountered by us and others. Some of the less severe cases of this kind when occurring in undernourished patients may be explained by a theory advanced by Kahn and Olmsted in a paper read before the American College of Physicians. In this paper Kahn and Olmsted speak of undernourished patients for a time sugar free on a definite diet and insulin dosage, who without change of diet or insulin dosage showed a return of sugar. This they attribute to the fact that improvement of the undernourished state of these patients, enabled them to digest and absorb more carbohydrate, which in turn required more insulin to metabolize. Thomson in the *British Medical Journal*, March 15, 1924, speaks of these same refractory periods. He calls them "weeks of discouragement" and looks for them in all severe cases of diabetes. He attributes them to the fact that insulin treatment has enabled the patient to stock his liver and muscles with glucose of which they were previously empty. A patient whose organs are well stocked with glucose will require more insulin to keep himself sugar free, other things being equal, than one whose organs are not so stocked.

Van Noorden's custom of increasing the patient's scanty proteid allowance as soon as his condition warrants is rational and worthy of trial. The same can be said of his interspersing the patient's routine diet with green vegetable and egg days, on which days but very small doses of insulin are needed. The objection that this complicates the scheme of treatment is not insuperable.

The statement that edema appearing during insulin treatment will disappear on a salt free diet we have confirmed in a case seen with Dr. Nye.

3206 Lafayette Avenue.

THE MODERN TREATMENT OF VOMITING OF PREGNANCY, WITH A REPORT OF CASES

W. J. DIECKMANN, M.D., and

O. S. KREBS, M.D.

From the Department of Obstetrics, Washington University
School of Medicine

ST. LOUIS.

The subject of vomiting of pregnancy has occupied the thought of investigators and clinicians for a good many years but up to this time no one has found the underlying cause of the condition. The treatment, however, has been varied in its scope, ranging from radical measures to conservative ones, with the present trend favoring the latter.

A brief review of the literature as to path-

ogenesis, pathology and treatment may serve to show that the present measures in treatment are merely logical adaptations of facts that have been established some time ago by various men. Furthermore, certain interpretations of clinical and laboratory data will be considered in their proper places.

Williams in his monograph in 1906 says, "Simmons, in 1813, was the first to induce abortion for its relief, an example which was soon followed by Davis, Chailly-Honore, Churchill, and others. The justifiability of the procedure, however, was first brought prominently to the attention of the profession by a discussion before the Academy of Medicine in Paris in March, 1852, when Dubois and Danyau contended that the induction of abortion was not only justifiable, but urgently demanded in severe cases, while Cazeaux held that interference was unnecessary and even hastened death in some instances."

Williams, in discussing the definition of the pernicious vomiting of pregnancy, states, "It is difficult to give a satisfactory definition for the reason that the gradations between the ordinary morning sickness and the more severe forms of vomiting are often so gradual as to render it difficult to predict in a given case whether the condition may continue without injury to the health of the patient, or will pass into pernicious vomiting. Generally speaking it may be said that vomiting should be regarded as pernicious in character when it occurs so frequently as to interfere seriously with taking food or leads to marked emaciation." His conclusions were:

1. The pernicious vomiting of pregnancy is not due to a single etiological factor, and occurs as one of three varieties: reflex, neurotic, and toxemic.

2. The *reflex* type is dependent upon the existence of abnormalities of the regenerative tract or ovum and may be cured by their correction or removal.

3. The *neurotic* type is dependent upon the existence of a neurosis without demonstrable lesions and is more or less allied to hysteria. It is the most frequent variety of serious vomiting and can be cured by suggestion or a modified rest cure.

4. The *toxemic* type is associated with characteristic changes in metabolism and, in fatal cases at least, with lesions in the liver analogous to those observed in acute yellow atrophy. It may occur in an acute or chronic form, the former causing death in ten days or less, while the latter may persist for weeks, or even months.

5. In reflex and neurotic vomiting there are no manifest changes in the urine, while the toxemic variety is characterized by a marked

decrease in the amount of nitrogen excreted as urea and a characteristic increase in the amount excreted as ammonia, the so-called ammoniac coefficient rising from three to five per cent to as high as forty-six per cent in one of his cases.

6. The *toxemic* type is diagnosed by the examination of the urine, the *reflex* by careful bimanual examination of the genitalia, and the *neurotic* after the exclusion of the other two varieties.

7. The prognosis is excellent in reflex and neurotic vomiting provided appropriate treatment is instituted, so that the termination of pregnancy is rarely indicated. In toxemic vomiting, on the other hand, a fatal issue can be averted only by prompt induction of abortion, and even then the prognosis is dubious.

He felt that an ammoniac coefficient of 10 per cent or more was sufficient indication for abortion.

Ewing, also in 1906, in a study based on the clinical and pathological data obtained from three cases of toxemia of pregnancy concludes that the early vomiting of pregnancy is a perfectly definite clinical entity, which progresses from mild to severe stages and types, and after death there is a very definite lesion in the liver. The lesion is attended with a disturbance of the nitrogen metabolism and the failure of urea formation, and is marked by the appearance in the urine of many unoxidized proteid derivatives. This same disturbance of nitrogenous metabolism is present in cases of vomiting of pregnancy which are not fatal, and the unoxidized proteid derivatives appear in the urine of many such cases.

As the morbid process is originally a functional disturbance of the liver, its intensity is not entirely dependent on any anatomical changes in the organ, and hence we find some fatal cases with minimal lesions of the liver. The relation of these lesions to the loss of oxidative capacity of the liver cannot at present be fully explained. The anatomical lesions certainly follow and do not precede the disturbance of function, and there may very well be several steps between the loss of oxidizing capacity and the hydrolysis, fatty degeneration and necrosis of the liver cells.

Ewing further notes in a subject, the distention of the intestinal tract with saline solution which has failed to absorb any of the fluid. In two cases the blood was found remarkably thick, viscous, and cohesive to an extent which he had never seen in any other condition, and which must have been of itself dangerous to life. These conditions indicate that saline infusion is required in the severe stages of hyperemesis or acute yellow atrophy, both to eliminate the poisons and to maintain

the normal concentration of the blood and that saline irrigation cannot be relied upon in a patient who is incapable of absorbing fluids.

Another conclusion which seems to follow from the pathological study of these cases is the absence of any necessarily fatal character in the disease. We are not dealing here with an uncontrollable bacterial infection nor with a hopeless anatomical lesion, but with a disturbance of function which only secondarily leads to organic lesions. If the poison can be eliminated or its further production prevented, there is nothing in the majority of the lesions which is incompatible with life, and there is demonstrative proof that extensive lesions of the liver of the present type are sometimes followed by spontaneous recovery. Hence, the indications are for energetic treatment upon the rational basis that the disease is an auto-intoxication. Saline irrigation and infusion seem to be the most effective procedure in serious stages of the disease and there are very evident reasons for its proved usefulness.

Williams, in a later paper in 1906, believes that the liver lesions are not the primary factor but result from the circulation of some substance in the blood which has already caused the metabolic disturbance. He also states that the practical identity of the hepatic lesions as well as the similarity in the clinical history of toxemic vomiting and acute yellow atrophy occurring in pregnancy force one to the conclusion that the two processes are closely related but not identical.

Ewing and Wolf in 1907, in an examination of numerous apparently normal cases found only two with approximately normal metabolism and no symptoms. In comparing their findings with their own observations in healthy men and women and with Folin's analysis of normal urine, the results indicate that in the great majority of cases pregnancy tends to disturb metabolism, resulting in a lowering of the percentage of urea nitrogen and an increase of the undetermined or amino-acid nitrogen and to a less extent the ammonia. This conclusion is strongly indicated also by the rapid restoration to the normal standard usually observed after delivery. Ewing also mentions that Stone, in 1903, came to the conclusion that pernicious vomiting and acute yellow atrophy are moderately severe and fulminant stages of one process.

Ewing in 1910 stated that the characteristic hyperemesis of gestation is a very definite clinical entity and thinks that the only safe position to take is that it is always of toxic origin, and that an anatomical basis of the disease is found in the parenchymatous degeneration of the liver and kidneys which there is an abundant reason for believing is present in every

such case. He further states that the available data indicate that the ordinary vomiting of pregnancy is the early sign of a continuous train of metabolic disturbances which end in fatal hyperemesis, malignant jaundice and acute yellow atrophy. The pathogenesis of the early toxemia is a complex subject, but the evidence points to functional disturbance of the liver of metabolic origin as the essential factor. Tracing the origin of this metabolic disturbance, one is led directly to such factors as the hereditary predisposition, the previous condition of the patient, the cessation of the menses, the influence of the nervous system, the increased demands of metabolic activity, the sudden loss of an adequate food supply, and the functional disturbance of the thyroid and parathyroid glands. There is something in gestation that seems to call for a re-adjustment of metabolic processes. We cannot define exactly the nature of this influence, but Ewing thinks its character is suggested by the fact that some animals eat little or no protein food during gestation. From the moment of conception there seems often to be a distinct reduction in the capacity to digest and adapt alien proteins, suggesting that the tissues of the embryo are built up chiefly from the maternal tissues and that a nervous mechanism shuts off the ordinary supply of alien food proteins.

Ward, in 1909, felt that in view of the relation of the thyroid gland to nitrogenous metabolism it would seem reasonable to believe that it may have an important etiological influence upon the toxemia of pregnancy. When we remember the importance of the liver in the function of metabolism and that the toxemia of pregnancy is associated with insufficiency of this function, that Ewing and others have found changes in the liver as constant in toxic vomiting of pregnancy, and that a deficiency or an alteration in the thyroid secretion profoundly disturbs metabolism, there would seem to be good ground for this belief.

If the above theory is true, any disease which involves the thyroid gland, such as Graves' disease, would, by altering the secretion of the gland and thus materially affecting metabolic processes, have an important influence on the toxemia of pregnancy, if it is not the main etiological factor in producing the toxic state. He concludes that where there is a failure of the normal hypertrophy of the thyroid gland during pregnancy, and when there is a diseased thyroid, as in Graves' disease, the administration of thyroid substance, by supplying the deficiency of the normal thyroid secretion and by diuretic action, may materially improve a faulty metabolism, and thus have a favorable influence upon the manifestations of the toxemia of pregnancy.

With reference to the thyroid, it is now generally accepted that it plays no part in the vomiting of pregnancy, and any results obtained by feeding thyroid are due either to the psychic factor or to the improvement of the metabolism which might occasionally occur.

Williams in 1912, in a brief review of the more recent literature up to that time, reached the following conclusions: (1) The underlying factor in all vomiting is probably due to an imperfect reaction on the part of the mother to the growing ovum. (2) Usually this is only a predisposing factor, while reflex or neurotic influence is the exciting factor. (3) Pernicious vomiting is accompanied by definite lesions. (4) High ammonia coefficient may be due to pernicious vomiting, starvation or neurotic vomiting, or to acidosis due to other conditions. (5) If improvement does not take place under treatment, the vomiting should be considered as toxic. (6) In the absence of genital lesions, a low ammonia coefficient points to the neurotic type.

Duncan and Harding in 1918, concluded that a toxemia is the basis for all vomiting of pregnancy. They report five cases of incarcerated pregnant uteri with vomiting only in three cases, correction of which did not stop the vomiting. With reference to the neurotic type, they feel that the neurosis is an exhibition of the disturbance of the nervous system by the toxemia. They conclude that the early morning sickness is the precursor of pernicious vomiting and note that the nausea and vomiting disappear through the day and reappear the following morning after a period of relative starvation. Treatment is generally affected by correction of diet and hygiene. This points strongly to the presence of a metabolic factor and that in mild cases this is the dominant one. Of the various metabolic factors the one most susceptible of disturbance is the carbohydrate.

Mottram has shown that often in pregnancy of nervous and ill-nourished animals, the liver becomes over-loaded with fat, i. e., there is increase of fat present, which has come in from the fat depots. He has also shown that a simple hunger of a few hours duration, in some animals, led to the same condition. These phenomena are more or less physiological and the effect on the liver is transitory. It seemed possible then that these two factors, pregnancy and a short period of hunger, might account for the periodicity of morning sickness, and that the metabolic factor here concerned was a temporary lack of glycogen in the liver. Such a condition, it is well known, leads to a fatty infiltration of that organ. Two things should follow from this view: First there should be an acetoneuria; second, this can be prevented by

keeping the patient on an adequate supply of carbohydrate. Acetoneuria was found in all cases except two and they were very mild. They felt that acetoneuria must be regarded as a secondary result and not a cause. Ewing's arguments on this point are conclusive. The lack of glycogen in the liver with its precursor, insufficient carbohydrate, was held to be a possible disturbing element in early forms and their success with carbohydrate feeding bears out this supposition.

Duncan and Harding reported a series of seventy patients, with no therapeutic abortions, all of whom recovered. In brief, their treatment consisted of carbohydrate administration by mouth, proctoclysis, and submammary injection. The carbohydrate of choice in these cases was lactose.

Titus, Hoffman and Givens believe that deficiency in carbohydrate is usually the disturbing factor and that the mechanism by which carbohydrate starvation produces toxemia of pregnancy is quite definite. The growing fetus requires large amounts of carbohydrate. Slemons finds that fetal tissues synthesize their protein from material in the fetal blood which has been acquired by diffusion from the blood of the mother and that fats and lipoids do not cross the placenta but are almost entirely manufactured in the body of the fetus from carbohydrate. He found a slightly higher mean blood sugar on the maternal side than on the fetal side. Thus the mechanism of diffusion is indicated.

According to Lochhead and Cramer, the placenta stores glycogen until the fetal liver can function. Gleike and others have shown that glycogen is especially abundant in the fetal tissues, and McAllister, by analysis, has proven that glycogen is abundant in the uterus and tubes at time of childbirth and especially abundant in the placenta. This demand of the fetus is an abrupt and unaccustomed drain on the patient who is called on at no other time other than pregnancy to supply glycogen to a tissue or organ. The uterus is enlarging rapidly and in its muscular hypertrophy it is making an extra demand for glycogen, while the fetus is growing far more rapidly than the child ever does in its extrauterine life. That the placenta is responsible is shown by the fact that in cases of twins, hydatidiform mole, syphilis, etc., there is usually an accompanying toxemia of some type. As the liver gives up glycogen a certain amount of fat replaces it and eventually the glycogen storing cells degenerate.

Pflueger has shown that glycogen disappears almost entirely during starvation, to be rapidly re-formed after rich carbohydrate diet. Both Graham and Whipple found that all poi-

sons worked better on the liver if the diet was high in protein and low in carbohydrate. Furthermore, a high carbohydrate diet caused a more rapid return to normal. After the patient is starving and vomiting, the liver rapidly deteriorates and poisons accumulate, the water intake is low and acidosis follows.

The treatment, as outlined by Titus, Hoffman and Givens, is similar to that of Duncan and Harding, with the addition of small amounts of intravenous glucose (15 to 20 grams in 250 c.c. of water given in a period of 30 min.) If glycosuria appears they decrease the amount.

Harding, in 1921, published a further report on the nausea and vomiting of pregnancy and his conclusions were similar to those advanced in his previous paper. Harding and Watson, in 1922, made a further report on the use of carbohydrate in the nausea and vomiting of pregnancy. In a series of 135 cases treated according to their methods by a group of men they report 98 cures, 25 improvements, and 9 failures. They conclude that patients should be aborted if after five to six days of treatment the urine output remains low and the specific gravity high. They further conclude that the ammonia coefficient is of no significance but that the ammonia excretion is of some value as a prognostic aid. They think the determination of total acetone bodies a better index of the patient's condition than the ammonia.

Williams, in the 1923 edition of his text book, brings the various ideas concerning toxic vomiting up to date. He says that, "Since pernicious vomiting is always preceded by the so-called morning sickness, and as the latter occurs in approximately every other pregnant woman, it may be assumed that the cause of vomiting in general must be sought in some factor commonly present in normal pregnancy; and, consequently, that pernicious vomiting is due to an increase in the amount or in the potency of the same factor, or to decreased resistance to its action on the part of the woman. Accordingly, its activity cannot be solved until this 'toxic substance' has been discovered and until it has been ascertained why it becomes increased in quantity in certain circumstances. As, unfortunately, neither of these criteria has as yet been satisfied, it is evident that whatever may be said is largely hypothetical and may be subject to revision at any time.

He adds: "In my monograph, which appeared in 1906, I stated that the evidence then available seemed to justify the differentiation of three types of serious vomiting, namely—reflex, neurotic and toxemic. I now believe that practically every case of vomiting rest upon a

toxemic basis, and that variations in its course depend upon the severity of the toxemia underlying it. In occasional instances the toxic influence is predominant, when we have to deal with toxemic vomiting par excellence. Fortunately, however, in the great majority of cases this factor appears to act merely as a predisposing cause in neurotic women, and becomes negligible after the nervous condition has been overcome. These are the cases of neurotic vomiting which make up the bulk of those we are called upon to treat. I have abandoned the conception of reflex vomiting, as increased experience has taught me that it should be regarded as a subdivision of the neurotic type. In general, it may be said that toxemic vomiting is a very serious affection, which frequently leads to death; while neurotic vomiting is readily amenable to treatment and can usually be cured by suggestive means.

"The researches of Opie upon zonal necrosis of the liver lend still further support to the toxemic basis of vomiting, as he pointed out that central and mid-zonal necrosis are usually the result of systemic poisoning. Moreover, it is well known that other poisons which act upon the liver—chloroform, arsenic and phosphorous—likewise produce cell destruction in these areas, while the peripheral portion of the lobules is spared to the last."

Williams further says, "In my original article I pointed out that in toxemic vomiting a high ammonia coefficient could be demonstrated in the urine, so that instead of three or four per cent of the total nitrogen being excreted in the form of ammonia, the figure might rise to ten, twenty, or even forty per cent. This I at first attributed to such perversion in the intermediary protein metabolism, as a result of the hepatic changes, that incompletely oxidized substances were excreted in large quantities instead of urea, and I believed that the existence of a high ammonia coefficient would enable us to differentiate between toxemic and neurotic vomiting. This, however, was soon shown to be erroneous, as Longridge, Leathes, and others pointed out that the high ammonia coefficient was a manifestation of an acidosis, while Rand and Underhill considered it an accompaniment of inanition and in no way associated with a toxemic process. Finally, in 1921, Nash and Benedict clearly demonstrated that the urinary ammonia is produced in the kidneys as an essential part of the mechanism for neutralizing such acids as are brought to them for excretion, thereby demonstrating that a high ammonia coefficient gives no information as to what is occurring in the liver and consequently cannot be utilized as an index of its metabolism.

"Furthermore, Folin states that with pronounced diminution in the protein metabolism (as shown by the total nitrogen in the urine), there is usually, but not always, and therefore not necessarily a decrease in the absolute quantity of ammonia eliminated. A pronounced reduction of the total nitrogen is, however, always accompanied by a relative increase in the ammonia nitrogen, provided that the food is not such as to yield an alkaline ash. He also mentions that a peculiar feature of the ammonia elimination is the pronounced individual difference shown under the influence of the starch and cream diet. He states that urea is the only nitrogenous substance which suffers a relative as well as an absolute diminution with a decrease in the total protein metabolism. Were the vomiting woman suffering from an acidosis, we might assume that the determination of the carbon dioxide combining power of the blood plasma would be diminished and thus afford an index of the degree of acidosis; yet the observations of Losee and Van Slyke, Emge and Killian indicate that it shows no change, even when the ammonia content of the urine is definitely increased. No explanation has yet been advanced for this seeming paradox." Later in this discussion we advance a theory.

Ewing and Wolf, in 1910, mention that one of the conceptions of pernicious vomiting is the theory of acid intoxication. According to this view the disorder arises from the formation and circulation in the blood of abnormal acids derived from various sources through disturbed metabolism.

They further state that a distinction must be made between acid intoxication and acidosis. According to the theory of acid intoxication, the acids derived from various sources through disturbed metabolism are not rendered harmless by neutralization, but circulate in the blood and produce symptoms. No such acids have been demonstrated. With regard to acidosis as a factor, it is well known from the work of Emge and others that pregnancy is accompanied by a mild acidosis. In a series of cases of pernicious vomiting the lowest CO_2 obtained was 35.6, which is well above the upper limit of what is considered severe acidosis.

Hirst, in 1916, reported cases of nausea of pregnancy treated with corpus luteum. Since then he has reported further series. We have used corpus luteum but believe it is efficacious only in the neurotic type where no toxemia has as yet developed.

As to the etiology of vomiting of pregnancy, we feel that there are a number of factors. The first and most important is the fetus and its need for glycogen. A second is an unstable maternal metabolism and the third and last is a

deficiency of carbohydrate. We feel that all three factors must play a part before the vomiting becomes serious. It is well known how rapidly post-operative vomiting and vomiting in the starvation treatment of diabetes clear up under the administration of food. The chief advocates of therapeutic abortion claim that the vomiting promptly ceases when the pregnancy is terminated. We feel that if pregnancy is terminated the condition becomes one of post-operative vomiting, i. e., the fetus which has been keeping the liver depleted of glycogen is removed and then the liver rapidly regains its normal supply of glycogen. In regard to patients who have died we point to the fact that the pathological lesions of pernicious vomiting, acute yellow atrophy, chloroform and phosphorous poisoning are identical and furthermore we have not aborted a single patient in the last three years and have had no mortality. We have noted the work of Ewing and Wolf with reference to the unstable maternal metabolism. With reference to the carbohydrate deficiency, we feel that Harding and Givens' work is conclusive. Usually all severe vomiting of pregnancy has as a precursor the usual morning sickness. Occasionally a dietary indiscretion causes a gastric upset and the metabolic disturbance proves the powder for the resultant vomiting. Constipation, which is usually marked early in pregnancy, also plays a factor in permitting auto-intoxication.

We feel that the terms "pernicious vomiting" and "toxemic vomiting" are misnomers; for our belief is that it is the same condition whether the vomiting is merely the morning sickness or the incessant vomiting of the severe case. The word "pernicious" connotes something evil which is causing the vomiting, while the word "toxemic" suggests a toxin. Naturally, after the vomiting has become severe, as a result of the deranged metabolism, toxic substances are in the blood, but they only form after the liver and other organs have been damaged and disappear when the metabolism becomes normal. We classify all our cases as vomiting of pregnancy and modify the diagnosis as to the severity.

In our series of cases we have repeatedly determined the ammonia coefficient and have found it useless so far as giving any definite idea of the particular condition. We have found that it depends in great part on the total nitrogen intake. We have had high ammonia coefficients in mild and moderately severe cases and low coefficients in severe cases. Williams in an earlier work stated that it fell following abortion, although no food was given. We do not have the complete data but advance the theory that the total urinary nitrogen was in-

creased as a result of the involution of the uterus and thus in turn caused a relative decrease of the ammonia ratio. Williams has stated that in the early puerperium the nitrogen in the urine increases as much as 50 per cent. Slemons states that the increase in urinary nitrogen is in quantitative relation to the involution of the uterus.

The question of acidosis has already been taken up in part but a short report of our findings might be of interest. The lowest carbon dioxide combining power of the plasma that we have gotten is 37. Our readings, as a rule, vary from 60 to 85, more often approaching the latter. Dr. Briggs of the Medical Department advances the following explanation for this paradox. He believes that the vomitus consists chiefly of gastric juice which contains acids needed to neutralize alkalis in the intestine. The resultant diminution of body acid causes a mild alkalosis. In a number of cases we have titrated the vomitus and found it to contain hydrochloric acid, both free and combined, which, although in small amounts, would have considerable volume during the course of the day. Furthermore, in the vomiting of pyloric stenosis of children, high carbon dioxide combining powers are obtained exceeding 100, and in one case reaching 120. In the latter case the child developed symptoms of tetany from the alkalosis.

We have found that in those cases where the vomiting was constant the combining power was either normal or increased, whereas in those cases where starvation was the main factor and vomiting was only after ingestion of food, the combining power was usually decreased (40-50). Thus we felt that the carbon dioxide combining power is of no great diagnostic aid.

We have used a method similar to that of Harding and Given in presenting our cases, i. e., mild, moderate and severe. Our mild cases are characterized by:

1. Intermittent nausea with irregular vomiting.
2. Ketonuria (mild, i. e., FeCl_3 test is negative but sodium nitroprusside is positive).
3. Normal urinary output with low specific gravity, and no albumin or casts.
4. Plasma carbon dioxide combining power, alkali reserve, N. P. N., etc., are within normal limits.
5. Temperature, pulse and respiration are normal.

Our moderately severe cases are characterized by:

1. Persistent nausea and vomiting so that only an insignificant amount of food is retained.
2. Ketonuria (strong test with FeCl_3).
3. Some concentration of urine and increase

in specific gravity, due in great part to the low fluid intake.

4. Plasma combining power and alkali reserve quite often are slightly decreased.

5. Usually temperature, pulse and respiration are normal but pulse may be slightly accelerated.

Our severe cases are determined by:

1. Constant nausea and vomiting; these patients retain nothing by mouth and eject in addition body fluids. Vomitus at times of coffee ground type.

2. Marked ketonuria.

3. Scanty, high colored and concentrated urine, which usually contains albumin with few casts, probably due to concentration for albumin and casts disappear as soon as output is increased.

4. Marked dehydration and emaciation characterized by dry, inelastic skin and diminished or absent panniculus.

5. Temperature is usually elevated slightly, pulse increased and quality varies from good to thready.

6. Patient is worried and restless, or at times apathetic or maybe comatose.

7. Jaundice at times.

8. Carbon dioxide combining power and alkali reserve usually high. N. P. N. may be slightly increased due to concentration of blood.

We believe all cases of vomiting of pregnancy should be treated intensively and base treatment on condition of patient at that time. In brief, our treatment for the three classes is as follows:

Mild. Rest in bed. An initial starvation period of 12-24 hours (fluid is allowed), then dry diet every two hours beginning at 6 a. m., and continuing until 8 p. m., with additional midnight lunch. Fluids are given in the interval. Diet consists of crackers, toast, cereals, potatoes, custards, etc. Sedatives in small doses are indicated. We prefer phenobarbital (luminal). It is supposed to have a specific effect on the vomiting center.

Luckhart, in 1923, in a report of several cases of vomiting of pregnancy, comes to the following conclusions: The drug allays nausea and vomiting and permits the ingestion and assimilation of food under conditions of pernicious vomiting and that the drug may be given without ill effects over a long period of time. As the patients retain food the diet is increased, but midnight and early morning lunches are continued. Protein is increased gradually but fats are kept at a minimum on account of excess of ketone in blood and urine. In some cases where additional sedatives are required, we advise the use of sodium bromide crystals in 5 gm. doses in 60 c.c.

starch solution given per rectum. This dose may be given two times daily. This addition is required only in moderate or severe cases.

Moderately Severe:

1. Rest in bed; enemas as needed; nothing by mouth for 12-24 hours.

2. Rectal tap of 300 c.c. 5 per cent glucose every 4-6 hours. Normal saline solution subcutaneously as needed.

3. Following the initial fast the duodenal tube or Andrews nasal tube is inserted and stomach lavaged. We then introduce a small amount (100-200 c.c.) of 10 per cent Karo syrup. If retained, we repeat every 1-2 hours, giving 100-400 c.c., as deemed advisable. The longest period we have kept a duodenal tube in place is 55 hours, but the nasal tube we have kept in for eight days. (In the latter case patient had psychosis of pregnancy and refused to eat).

4. Phenolbarbital sodium is given in 1-2 grain doses "H" every 4-6 hours, as needed, until it can be given and tolerated by mouth. Ketosis usually clears up in 24-28 hours. After removal of tube patient is put on dry diet, which is increased as desired.

Severe:

1. Routine orders as in preceding.

2. Nothing by mouth except cracked ice.

3. Rectal tap, 300 c.c. of 5 per cent glucose, every four hours.

4. Phenolbarbital sodium, 1-2 grain "H," every 4-6 hours.

5. Normal saline solution or isotonic glucose as needed.

6. The intravenous administration of glucose.

In the course of several days we insert the nasal tube and as soon as food is retained begin the administration of Karo syrup. Further management of the case is as outlined in preceding type.

Woodyatt, Samson, Wilder, Erlanger and others have demonstrated beyond doubt that glucose can be given intravenously at a rate of 0.8 gm. per kilo per hour without producing glycosuria. We do not advocate a continuous infusion but do give glucose two or more times daily, as needed. If it is given at intervals the amount of glucose can be increased, thus we have given 125 gms. glucose in one hour to a 60 kilo woman with a glycosuria of only 13 gms. (Patient received 60 gm. glucose in addition by rectal tap). If patient is dehydrated we prefer giving 1000 c.c. 10 per cent glucose two or more times a day, with addition of normal saline solution as needed. We feel that these patients should have a fluid intake of at least 3000 c.c., prefer-

ably 4000-5000 c.c. We prefer giving large amounts of isotonic glucose in preference to salt solution, because the salt is to a certain extent accumulative and must be excreted by the kidneys, while the glucose is not only not excreted by the kidneys but also is a food. Furthermore, there are a number of cases on record of sodium chloride poisoning from excessive hypodermoclysis and proctoclysis.

We have already noted that Ewing found a marked concentration of the blood in cases of pernicious vomiting at autopsy and lack of absorption of fluids given by rectal route. We see no contraindication to giving glucose in these large amounts providing it is properly made up, sterilized and injected. Faulty technique in any of the above mentioned details will result in a reaction, the severity of which depends on the degree of carelessness. For example, a cold solution will cause a rigor, while an improperly sterilized or dirty solution may throw the patient into coma (question of an anaphylactic shock from foreign protein). We also give 20 per cent glucose. This is reserved for those cases where emaciation is marked and food is badly needed. Usually we give 500 c.c. and it can be repeated every four hours without any danger. It is readily seen that a relatively large number of calories can be given to a patient by this route. For example, 2000 c.c. of 10 per cent glucose will yield 800 calories, while 2,000 c.c. of 20 per cent glucose will produce 1,600 calories. When we consider that the basal rate of the average sized woman at rest is approximately 1,400 calories, one can readily see that a patient can be carried along for days on this treatment without danger. Thus we feel that glucose supplies much needed calories and, as has already been mentioned, the degenerative changes in the liver are most rapidly regenerated in the presence of an abundant supply of carbohydrate.

D. O. H. Schwarz first suggested, in a paper on Vomiting of Pregnancy, read before the Topeka (Kansas) Medical Society in January, 1924, that insulin be used in the very severe type in conjunction with intravenous glucose. We have had no opportunity as yet to test this method but feel that it will be very efficacious for it has been used at the Children's Hospital on athreptic babies and certain types of severe non-diabetic acidosis with striking results. In some cases the results surpass those obtained with transfusion. The indication for the use of insulin is a marked glycosuria, which is due either to injection of glucose beyond tolerance or to low renal threshold. We include the abstract of a case of vomiting of pregnancy which was treated with glucose and insulin on the suggestion of Dr. Schwarz

and presented before the Washington University Medical Society by Dr. Andrews February 11, 1924.

Patient, Gravida II, Para 0, age 18, married at 15. First pregnancy accompanied by great deal of nausea and vomiting ended by spontaneous miscarriage at 4-5 months. Present illness began with vomiting about December 26, 1923. Last period November 22, 1923. Onset of severe vomiting first week in January. Patient retained only water in small amounts. Admitted to hospital January 26th. Marked dehydration. B. P. 120/70. Pulse 114. Temperature ranging from 97-99. Urine showed specific gravity of 1028, albumin, strongly positive acetone and occasional granular cast. Treatment as follows: Nothing by mouth, 200 c.c. 3 per cent. glucose and 2 per cent. sodium citrate by rectum every four hours. Normal saline subcutaneously—latter was stopped after second day. After fourth day patient was allowed sips of water and liquid food but vomiting continued to time patient was seen in consultation February 6th. Following course of treatment was instituted: Nasal tube was inserted and 800 c.c. of carbohydrate fluid was given and 500 c.c. of 20 per cent. glucose intravenously. The following night she excreted 33 gms. of glucose in urine per 1,000 c.c. On February 7 patient received 270 c.c., carbohydrate fluid and 700 c.c. of 50 per cent., Karo syrup through tube with addition of 1,000 c.c. 20 per cent. glucose intravenously. During a period of twelve hours she received 80 units of insulin. Day urine with insulin showed only 20 gms. of glucose per 1,000 c.c. Night urine showed 16 gms. On February 8 vomiting and nausea had entirely ceased and she was given food by mouth. With the cessation of the high sugar intake the urine contained only a trace of sugar and only a very faint trace of acetone. No further insulin was given. On February 9 patient took regular diet. Fasting blood sugar before insulin was used was .12 per cent., after use of insulin blood sugar was .09 per cent.

In addition we note that Thalheimer in the *Journal of the A. M. A.*, 3-1-24, reports three cases of vomiting of pregnancy treated with intravenous glucose and insulin. We warn against the indiscriminate use of insulin but feel that there is no contraindication if case is closely watched and dosage based on carbohydrate administered. A safe margin is obtained if one unit of insulin is given to each 3 gms. of glucose injected.

We note that Harding et al. give 10 per cent glucose in normal salt solution subcutaneously only once. We have given isotonic glucose subcutaneously repeatedly but prefer the intravenous route, for a larger amount can be given and there is less discomfort. Further-

more, they give no intravenous glucose. Harding and Watson also advise the use of lactose. We use lactose (4 gms. per 20,000) in addition to the usual amount of sugar in fruit juices, etc., but one must remember that fifteen times as much glucose can be given without glycosuria as shown by Hurwitz and Blumfield and that the tolerance of lactose injected intravenously approaches zero, as mentioned by Woodyatt et al.

Titus and Givens, in 1922, reported a series of cases of pernicious vomiting and toxemia of pregnancy treated with larger amounts of glucose intravenously with even better results. They confirmed the work of Whyllie and his associates, that following intravenous glucose, those portions of the liver lobules which are ordinarily necrotic are thereby restored to a marked degree, and in most instances a diagnosis of eclampsia or pernicious vomiting of pregnancy, as the case might be, could not be made from an examination of the liver sections alone. With reference to their glucose tolerance test, we feel that too many factors enter to make it of any great value. One of the objections is that all of the glucose is not removed by the liver. Woodyatt, Erlanger et al. feel that the tissues take up some of the glucose and some polymerizes, while probably only a small part is removed by the liver and stored as glycogen. Williams also mentions the injections of 250 to 500 c.c. of 10 to 20 per cent glucose four times daily but places no great reliance on it.

We have had a number of patients who vomit to procure an abortion. One must not lose sight of the fact that although this type of patient desires an abortion she may have all of the symptoms and findings of a severe case, due to her incessant vomiting. She should be treated as such, but treatment should not be gentle. We advise repeated gastric lavage, subcutaneous glucose and saline in large amounts with blunt needles and without the use of novocain. They should also be assured that an abortion will not be considered and that the treatment will be successful.

We have never transfused a patient for pernicious vomiting but it is conceivable that a patient might be in such straits that transfusion was indicated. There is no contraindi-

	Mild		Moderate		Severe		Total Cases	Total Abortions	Per Cent. Abortions
	Cases	Abortions	Cases	Abortions	Cases	Abortions			
Series 1	2	0	7	4	2	2	11	6	54
Series 2	7	0	5	0	3	0	15	0	0

cation to transfusion and it should always be borne in mind.

In the following chart we have listed our cases in two series according to our classification. Series are comprised of cases from 1916 to 1921 and from 1921 to 1924. The patients in the first series, from 1916 to 1921, were not treated with intensive carbohydrate injections, while the patients in the second series were. Furthermore, as has already been stated, we believe in the early intensive treatment as shown by our hospitalization of a relatively large number of mild cases.

CONCLUSIONS.

1. Vomiting of pregnancy, including usual morning sickness and so-called pernicious vomiting, are one and the same, differing only in intensity.

2. The etiological factor is a glycogen deficiency due to the demand of the fetus and an unstable maternal metabolism. The serious trend of the condition results from degenerative changes in the liver.

3. Results depend on early and intensive treatment with carbohydrates.

4. We see no need for therapeutic abortion in properly handled cases.

5. Neurotic vomiting is best handled by intensive and disagreeable treatment, with such addition of carbohydrates as are necessary to take care of the metabolism of the patient.

4512 Chouteau Avenue.

4901 West Pine Boulevard.

BIBLIOGRAPHY

- Davis and Whipple: *Arch. Int. Med.*, 1919, XXIII, 711.
 Duncan and Harding: *Jour. Con. Med. Assoc.*, 1918, VIII, 1057.
 Emge: *Am. Jour. of Obstetrics*, 1918, LXXVII, 813.
 Ewing: *Am. Jour. of Obstetrics*, 1905, XXI, 145.
Am. Jour. Med. Sci., 1910, CXXXIX, 828.
 Graham: *Jour. Exp. Med.*, 1915, XXI, No. 2.
 Harding: *The Lancet*, 1921, 201, 327.
 Harding and Watson: *The Lancet*, 1922, II, 649.
 Hirst: *Jour. of A. M. A.*, 1916, LXVI, 645.
Jour. of A. M. A., 1916, LXVII, 1848.
Jour. of A. M. A., 1921, LXXVI, 772.
 Leathes: *Proc. Royal Soc. Med.*, 1908, March.
 Longdrige: *Jour. Obst. and Gyn. Brit. Emp.*, 1907, XII, 48.
 Losee and Van Slyke: *Am. Jour. Med. Sci.*, 1917, CLIII, 94.
 McAllister: *Jour. Obst. and Gyn. Brit. Emp.*, 1913, XXXIV.
 Mottram: *Jour. Physiol.*, 1909, XXXVIII, 281.
Jour. Physiol., 1914, XLIX, 23.
 Nash and Benedict: *Jour. Biol. Chem.*, 1921, XLVIII, 463.
 Opie: *Jour. Med. Research*, 1904, XII, 147.
 Paddock: *Jour. A. M. A.*, 1922, LXXVIII, 1611.
 Stodie and Van Slyke: *Arch. Int. Med.*, 1920, XXV, 693.
 Samson and Woodyatt: *Jour. Biol. Chem.*, 1913, XXX, 155.
 Slemons: *Am. Jour. Obst.*, 1919, XXX, 194.
 Stone: *Amer. Gyn.*, III, 518.
 Titus, Hoffman and Givens: *Jour. A. M. A.*, 1920, LXXIV, 777.
 Underhill and Rand: *Arch. Int. Med.*, 1910, V, 61.
 Ward: *Surg., Gyn. and Obst.*, 1909, IX, 617.
 Whipple and Sperry: *Bulletin Johns Hopkins Hospital*, 1909, XX, 278.
 Williams: *Bulletin Johns Hopkins Hospital*, 1906, XVII, 71.
Am. Jour. Med. Sci., 1906, CXXXII, 343.
Jour. Obst. and Gyn. Brit. Emp., 1912, XXII, 245.
 Text-Book, V. Edition.
 Wallis: *Jour. Obst. and Gyn. Brit. Emp.*, 1921, XXVIII, 3.

THE OCCURRENCE OF ENDEMIC TYPHUS FEVER IN ST. LOUIS*

From the Medical Service of the Jewish Hospital

JEROME E. COOK, M.D.

ST. LOUIS

Typhus fever has been known in Europe for centuries. Its devastating epidemics still take their great toll of life in Russia and the Balkan States. Two severe and several minor epidemics occurred in the United States during the first half of the last century. Recognition of the milder endemic form of the disease in this country is of comparatively recent date. Brill¹ in 1910 reported a series of 221 cases of an acute febrile exanthem which he designated as "of unknown origin" but whose similarity to typhus fever he recognized. The cases reported had occurred in and around New York City and it was at first thought that a new disease had been described. Later, as the result of further observation, Brill, Anderson,² Goldberger³ and others have shown that these cases were true typhus and that the disease is present in endemic form in several of our larger eastern cities. Its more general and widespread distribution has been suspected and McCrae's statement that "with singular complacency many of us have been looking at it without seeing it" probably hits not wide of the mark. Recently Shattuck⁴ of Boston reported a small series of cases from that city which he had collected by searching through some 7,000 histories of various febrile illnesses occurring in the Boston City Hospital between the years 1911 and 1921, in which typhus was diagnosed or may have been the real disease instead of that diagnosed. In this way he collected four cases which during this period of ten years had been diagnosed typhus fever; from other diagnoses he sorted five more which were probably typhus and five others which were "perhaps" typhus. Most of these patients were of eastern European birth but were not recent immigrants.

Reference to the files of the St. Louis Health Department shows only a single report of a case of typhus fever in the more than 25 years during which suitable records have been kept. This case is of recent date and one of the number included in this paper. The record room index at the Barnes Hospital shows no case of the disease since the hospital was opened ten years ago.

The several cases here reported occurred in the medical services of Drs. A. E. Taussig, Sale and myself in the Jewish Hospital of St. Louis. While these cases are few in number their importance from the standpoint of epi-

*Read before the St. Louis Medical Society, March 11, 1924.

demiology must not be underestimated. Since Anderson and Goldberger, Nicolle and more recently Weil and Breinl⁶ have conclusively demonstrated that the disease is transmitted by the louse (*pediculus vestimenti* and probably *pediculus capitis*), it is quite clear that the occurrence of the few cases here reported means that the disease has been carried in successive stages from one individual to another. Each of these individuals has probably been ill without the true nature of the illness being recognized. There is, of course, the possibility that an individual may harbor and transmit the infection without having manifested any symptoms of the disease, although I have not seen the record of any observation to support this deduction. The fact has, however, been established in the case of experimental infection of laboratory animals. Another question, the answer to which would throw much light upon the occurrence of these sporadic cases of typhus, has to do with the length of time during which the louse remains capable of transmitting the infection after feeding upon a typhus patient. Each of these factors will play a part in determining the actual prevalence of human typhus of the endemic type. It is scarcely probable that the disease is being constantly brought to St. Louis from the centers of epidemic in Eastern Europe. The reports of the U. S. Public Health Service from our ports of entry do not indicate that this is so. None of the cases here reported was a recent immigrant though all were of Russian birth; they had all been resident in St. Louis for some months or years prior to the occurrence of their illness. In each instance the diagnosis of typhus fever was made during the course of the disease and was definitely established by the abrupt fall in temperature and rapid convalescence. In one case laboratory confirmation was obtained by the Weil-Felix⁷ agglutination test made by the department of health of New York City. This test has been found most useful as a diagnostic measure in the recent European epidemics. It would, however, seem that the outcome of the reaction depends upon the severity of the infection and Brill⁸ states that the milder endemic type of the disease frequently fails to give a positive and that a negative reaction must not be taken as evidence against typhus.

Probably the one most important factor in the diagnosis of the endemic type of typhus is the recognition of the fact that it does exist in our larger cities and perhaps elsewhere. If the possibility of its occurrence is kept in mind the differential diagnosis between the two other conditions with which it is most often confused, epidemic meningitis and typhoid fever, will not as a rule be difficult though an element

of doubt may exist until the typical drop in temperature occurs. The conception of "abortive" typhoid fever in the sense in which it has been used in some of our texts must be viewed with great suspicion. A typhoid-like disease which terminates abruptly towards the end of the second week is very probably typhus and should not be dismissed lightly as a case of "abortive" typhoid. Only the most rigid laboratory confirmation should permit the latter diagnosis to pass muster.

It may be well, before presenting the case records, to give a brief résumé of the clinical picture seen in the endemic form of typhus fever. This differs somewhat from the more severe epidemic form, the one more usually described. The illness starts abruptly with one or several chills, headache and vomiting. Occasionally these symptoms are preceded by one or several days of malaise and headache. The temperature rises sharply and maintains a fairly even level. There is considerable prostration. Headache is the most prominent symptom, persisting with great intensity until the end of the disease. When, as occasionally happens, it is accompanied by a certain amount of neck rigidity and a positive Kernig the suspicion of a meningitis is aroused. Anywhere from the third to the seventh day, usually by the fifth day, an eruption appears, morbiliform rather than roseolar in character but varying considerably in different cases, depending, it would seem, upon the severity of the infection. The eruption is, generally speaking, most profuse in the severe cases and least so in the mild cases.

Individual spots may resemble very much the typhoid roseola and fade on pressure but the eruption is usually much more profuse than in typhoid. The spleen is not usually palpable. There is as a rule a mild leucocytosis but counts as low as 4,200 are reported. Somewhere between the 12th and 15th day, but occasionally as early as the 8th day, the fever ends by crisis or quick lysis and the patient enters upon a most rapid convalescence. Fatal outcome is rare.

Case I. Mrs. B. F., age 36, No. 200945. Entered hospital July 12, 1920. Her illness began rather acutely on July 9 with pain in left side, chill, vomiting and fever. The chills (or chilly sensations) were frequent during the first days. The headache and fever continued and there was a tendency to frequent bowel movements. Examination at time of entrance showed a fairly healthy-looking woman with slightly flushed cheeks, moist, slightly furred tongue. No abnormal signs in the chest. The abdomen was not distended. The lower pole of a soft spleen could be felt on inspiration. No skin eruption on entrance.

July 15. Scattered over the body, but more numerous over the abdomen, is a dull red papular eruption, not as bright or as well defined as the typical typhoid rose spot; spleen larger. The eruption began to fade

about July 17 and on July 21 was gone, leaving a dirty, brownish "speckled" appearance.

The pulse rate during the first few days was around 110, later it dropped below the usual pulse temperature ratio, remaining around 100. No well defined dicrotism. Pediculi capitis noted. On July 20, the 12th day of disease, the temperature gradually dropped, becoming entirely normal the next day and remaining so thereafter.

The only medication was codein and aspirin p. r. n., which may account for the somewhat irregular fastigium.

there was a tinge of cyanosis to the face, the conjunctivæ were injected and she complained of photophobia and backache. No pharyngitis. Heart and lungs clear. Abdomen not distended. Scattered over the abdomen were a number of small papules which would fade but not disappear on pressure; by the next day they could no longer be seen. The lower pole of the spleen was palpable on inspiration. The temperature remained elevated for two days, then dropped to normal in 24 hours on the 10th day of the disease. The presence of pediculi capitis was noted.

Form No. 14 (9-11-23)

THE JEWISH HOSPITAL OF ST. LOUIS

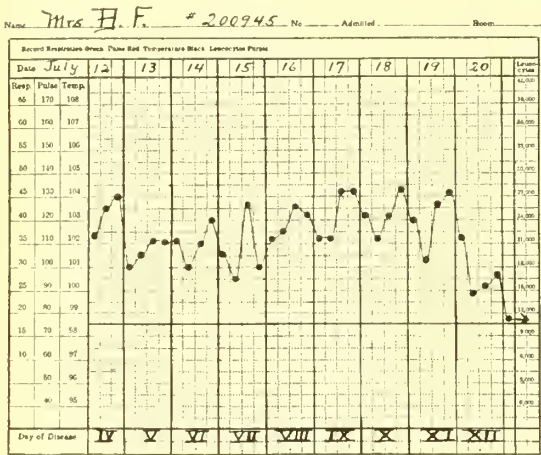


Fig. 1. Temperature Chart, Case 1.

Form No. 14 (9-11-23)

THE JEWISH HOSPITAL OF ST. LOUIS

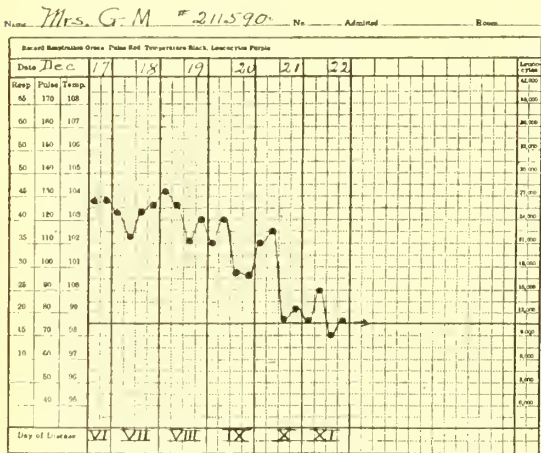


Fig. 3. Temperature Chart, Case 3.

Form No. 14 (9-11-23)

THE JEWISH HOSPITAL OF ST. LOUIS

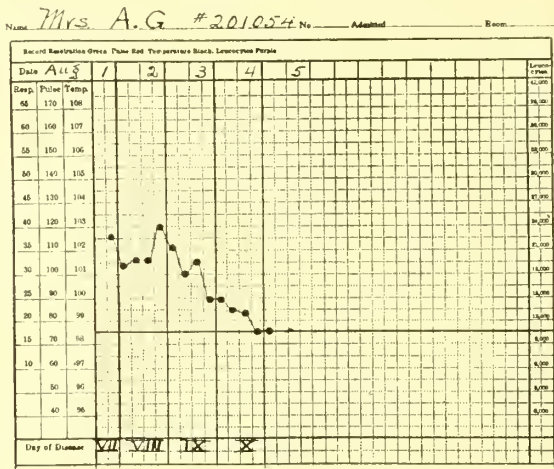


Fig. 2. Temperature Chart, Case 2.

Form No. 14 (9-11-23)

THE JEWISH HOSPITAL OF ST. LOUIS

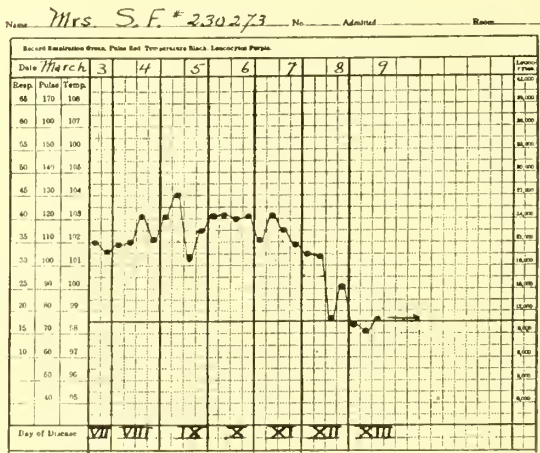


Fig. 4. Temperature Chart, Case 4.

Urine negative. Blood culture, repeated Widal and W. R. neg. Stools showed no occult blood. Cultures of the stool, urine and from the skin papules negative for typhoid. 7-12, W. B. C., 5,000; 7-15, W. B. C., 7,600; 7-17, W. B. C., 9,800; 7-18, W. B. C., 9,200; 7-19, W. B. C., 14,000; 7-21, W. B. C., 8,000.

Case II. Mrs. A. G., age 27, No. 201054. Entered hospital August 1, 1920. A week before, on July 25, sudden onset of illness with pain in the back, chills, fever and headache. The symptoms continued and she entered the hospital with a temperature of 102.5;

The W. B. C. was 6,200. Blood culture, Widal and W. R., negative.

Case III. Mrs. G. M., age 24, No. 211590. Entered hospital December 12, 1921. Onset of illness suddenly on December 12, although she had not felt well for some days before. On that day chills and high fever which had reached 104 previous to coming to the hospital; there had also been delirium, severe headache and general body aching. Examination of the chest and abdomen was negative; spleen not palpable. There was a suggestion of neck rigidity. Over the

abdomen, back, forearms and about the ankles small red papules of somewhat unequal size fading on pressure. No pediculi noted.

December 20. Some clouding of the sensorium, photophobia, complains bitterly of frontal headache; eruption more profuse, moderate neck rigidity; attempt at spinal puncture not successful.

December 21. Clouding of sensorium persists; photophobia, headache. The eruption is less profuse, no splenic enlargement.

By the next day the temperature had dropped to normal, the patient felt well and there followed a rapid convalescence.

Medication: Codein and aspirin p. r. n.
White blood count: 12-17, 4,800; 12-18, 5,400; 12-22, 10,000. Three blood cultures negative. Widal negative.

Case IV. Mrs. S. F., age 42, No. 230273. Entered hospital March 3, 1923. Was taken ill suddenly on February 25 with malaise, dry mouth and burning of the eyes; the symptoms continued with increasing intensity. On entrance to the hospital, the 7th day of her illness, the physical examination showed a furred tongue with sordes; the trunk was almost covered with a small roseolar eruption which became even

lungs and abdomen negative, abdomen not distended. The thorax is covered with a coarse roseolar eruption. Scratch marks suggesting pediculosis but the parasite is not found.

May 23. Patient very stuporous; involuntary urination.

By May 24 the roseolar eruption was fading. A spinal puncture was done because of the stupor. Rather suddenly on May 26, about the 14th day of illness, the temperature fell abruptly to normal where it remained. The patient had a rapid convalescence and left the hospital June 3. At no time was the spleen palpable.

The W. B. C. (5-22) 11,400; (5-23) 14,000.
The spinal fluid was negative except for a cell count of 13.

Widal and blood culture negative. Some of the patient's blood was sent to the health department of New York City. It was found to give a strongly positive agglutination with culture of *Bacillus Proteus* X, the so-called Weil-Felix reaction.
Metropolitan Building.

REFERENCES

1. Brill, N. E.: An Acute Infectious Disease of Unknown Origin. *Am. Jour. Med. Sc.*, Vol. 139, page 484. April, 1910.
2. Anderson, I. F.: The Problem of Typhus Fever in the United States. *Trans. Assn. of Amer. Phys.*, Vol. 28, page 81, 1913.
3. Anderson, J. F., and Goldberger, J.: The Experimental Proof of the Identity of Brill's Disease and Typhus Fever. *N. Y. Med. Jour.*, Vol. 95, page 976. May 11, 1912.
4. Shattuck, G. C.: Typhus Fever at the Boston City Hospital. *Boston Med. and Surg. Jour.*, Vol. 186, page 235, February 23, 1922.
5. Weil, E., and Breinl, F.: Experimental Studies on Infection and Immunity in Typhus. *Jour. of Infect. Diseases*, Vol. 33, page 60, July, 1923.
6. Breinl, F.: Studies on Typhus Virus in the Louse. *Jour. of Infect. Diseases*, Vol. 34, page 1, January, 1924.
7. Weil, E., and Felix, A.: Ueber die Beziehungen der Fleckfieberagglutination zum Fleckfiebererreger. *Zeitsch. f. Immunitätsforschung*, Vol. 31, page 457, 1921.
8. Brill, N. E.: Typhus Fever. *Nelson's Loose Leaf Medicine*, New York. Thos. Nelson and Sons. Vol. 1, 1920.

RECENT DEVELOPMENTS IN DERMATOLOGY
NORMAN TOBIAS, M.D.

ST. LOUIS

So many skin diseases belong to the "etiology unknown" group that any experimental or clinical data bearing on etiology or therapy is exceedingly welcome. It is the purpose of this paper to give a résumé of the important and outstanding recent developments in the field of dermatology.

There is no branch of medicine in which internal treatment has been so abused as in dermatology. Various causes are responsible for this state of affairs, namely the intractability of many dermatoses, the ignorance of etiology and difficulties in diagnosis. Since remissions and curious coincidences sometimes occur in the course of many acute and chronic conditions, one must be on his guard against *post hoc propter hoc* conclusions when trying out new drugs and methods of therapy.

NEW FINDINGS IN ETIOLOGY AND PATHOLOGY.

Pemphigus has always been considered a serious disease of unknown etiology. Eberson¹ has recently isolated from the blood of seven

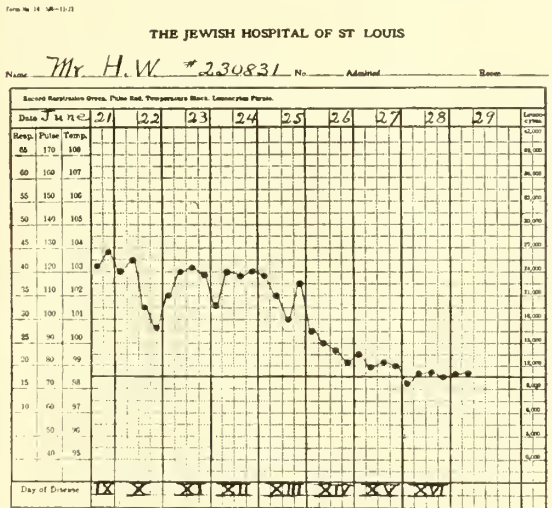


Fig. 5. Temperature Chart, Case 5.

more extensive the next day and after three days began to fade. Heart, lungs and abdomen negative. On March 7 the patient was a little irrational, complained of epigastric discomfort and headache. No meteorism. On the 12th day of her illness the temperature fell by crisis, remaining normal on the 13th and continued normal with the exception of a very slight occasional rise which was attributed to a phlebitis in one of the varicose veins of the left leg. This had developed during the height of her illness. The spleen was at no time palpable. No pediculi noted. The pulse remained almost constant at 100 until the end of the disease, then dropped to normal.

The W. B. C. 7,200 (3.3) and 9,000 (3.6). No malaria; stool showed no occult blood. Cultures from the blood and the skin roseolæ were negative for typhoid.

Case V. Mr. H. W., age 54, No. 230831. Entered hospital May 21, 1923. He had been ill about ten days—the time not definitely established. Onset abrupt with rigors and discomfort but no localized pain. He tried to remain at work, later kept to the house with a temperature of 101 to 103 and finally came to the hospital.

May 22. Some dulling of the sensorium, conjunctivæ injected, tongue heavily furred, sordes. Heart,

cases of pemphigus, a gram positive, anerobic, non-motile ovoid or coccoid organism which he has named *Bacterium pemphigi*. He obtained it repeatedly in every case examined and in each instance it was morphologically, culturally and immunologically the same.

Covey² reports interesting findings in the spinal cord of a case of chronic pemphigus which came to autopsy. Microscopical examination of the spinal cord revealed scattered, darkly stained, rounded bodies in the cord and dorsal roots. It could not be determined at the time whether they were primary neoplasms or the direct result of chronic irritation from a low grade focus of infection.

To add to these new findings, Davis and Davis³ have reported good results in the treatment of pemphigus from the use of iron and arsenic intravenously and coagulen subcutaneously. They advocate these drugs in the treatment of the vulgaris type especially.

Herpes simplex in children has been studied by Gerstenberger⁴ who believes that these cases of herpetic stomatitis and herpes labialis are primarily nutritional disorders and due to a deficiency of the water soluble B vitamin in the diet. He considers the role of bacteria secondary. Canned tomato is advocated as the most dependable source of this vitamin.

The etiology of lupus erythematosus is as yet unsolved but the views of the British dermatologist, MacLeod, are very enlightening. In a recent paper⁵ he states that he does not consider the disease as a clinical entity but a peculiar cutaneous symptom which may be caused by a number of toxins. He does not believe that tuberculosis has any direct etiological influence or significance in the production of the disease.

Bromide eruptions have been studied by Wile, Wright and Smith⁶ who advocate the use of intravenous normal saline injections. In a more recent article⁷ Wile reports good results in the treatment of both the cutaneous and mental symptoms of bromism. He suggests that the mass action of the chloride tends to throw out the bromide into the blood relieving the apparent mental toxemia and in a similar manner clearing up the skin manifestations.

Infantile eczema is a subject that is frequently dealt with in pediatric and dermatological journals. However, nothing startling can be reported regarding etiology or treatment. Although much has been written about the role of the diet in the causation of the disease, Gerstley⁸ believes that diet plays only a secondary part in infantile eczema. He restricts the diet only in overfed babies and in secondarily infected cases. Many clinicians agree with him on this point. Shannon⁹ reports cases in breast fed infants due to sensitization to food

proteins in the mother's dietary and transmitted to the infant through the mother's milk. White¹⁰ has given us crude coal tar in the treatment of these affections. He has found abnormal stools in every obstinate case of the disease and treats them from the standpoint of faulty digestion. Other investigators are unwilling to incriminate a diet in breast fed babies that is physiologically and biologically normal for them.

Desensitization in cases of recurrent rhus dermatitis promises to be a valuable addition to our methods of handling this disease. Strickler,¹¹ who is an authority on the subject, advocates the use of poison ivy or oak toxin or antigen for this purpose. The treatment consists of four intramuscular injections of .3-.5 cc. of the solution at four-day intervals. To be doubly certain of results he advises further treatment with the tincture of the offending rhus for a period of one month following the injections. Bivings¹² has recently reported good results in the treatment and desensitization of these cases using a modification of Strickler's method. It seems probable that desensitization may be worked out for other cutaneous diseases in the future.

Pruritus ani has always been the *bête noir* of the dermatologist. In spite of the 57 varieties of treatment most of the chronic cases are intractable. Knowles and Carson¹³ report good results from the use of autogenous vaccines made from *streptococcus fecalis*. Carrera¹⁴ advocates the use of intravenous glucose solutions in cases of pruritus of undetermined origin.

Ever since Darier described tuberculides in 1896, they have been of great interest to the internist and dermatologist. In recent years the conception of their supposedly tuberculous nature has undergone revision and Darier himself now advocates the term tuberculoids for them. While there is no doubt that some of the cases are due to infection with the tubercle bacillus, many of the cases are evidence of hematogenous infection with other bacteria.

Guy¹⁵ has analyzed a total of 42 cases of tuberculides in the literature. Twenty-four of these cases were considered positive by virtue of a definite family history or tuberculosis in the patient. However, actual tuberculosis was present in only eleven of the cases. In two cases studied by him, he found evidence of intestinal and circulatory stasis. Furthermore, he isolated *streptococcus viridans* from the stools in both cases and by subcutaneous injections, produced lesions which were clinically similar to tuberculides. From these experiments he has developed the theory that tuberculides are due to the dissemination of feebly pathogenic organisms in the blood whose localization

depend upon the factors of lowered resistance and circulatory stasis.

The etiology and bacteriology of so-called mixed infections in venereal lesions can be now explained in many cases. Brams, Pilot and Davis¹⁶ found fusiform bacilli and spirochaetes in the preputial secretions of 51 per cent of a group of 100 apparently healthy men. They also found these organisms in 21 of 36 pregnant women. Bram¹⁷ in another study isolated the Ducrey bacillus in 5 of 30 healthy men examined. The organism was morphologically and culturally similar to the Ducrey bacillus. He also recovered a similar organism from the cervix and clitoris of women having no genital sores. These studies may explain some of the phases of chancroidal and mixed infections.

The chemistry of the blood has been studied by various investigators in an attempt to explain the causes of some of the obscure dermatoses. Schamberg and Brown¹⁸ in a study of the nitrogenous elements of the blood, found excessive uric acid values in many cases of pruritus and eczema. McGlasson¹⁹ found a hyperglycemia in a series of cases of dermatitis and pruritus. In a study of the inorganic salts of the blood, Schamberg and Brown²⁰ found normal calcium, magnesium, potassium and phosphorous values in psoriasis, eczema and urticaria. Pulay²¹ has been able to explain some of the local phenomena in diseases of the skin on the basis of physical and colloidal chemistry.

Various studies in experimental dermatology have been reported. Lane²² believes that the elimination of acids in the sweat and the action of the capillaries or both may be an important factor in the occurrence of patchy diseases or the predilection of certain diseases for certain areas. Teague and Goodpasture²³ have studied the nature of the virus in herpes. Dermatoscopy, introduced by Saphier in 1921, promises to be of value in the study of the physiology and pathology of the skin. Bulliard²⁴ and Trotter²⁵ have shown that repeated cutting or shaving the hair has no effect on the rate of growth. The latter has also demonstrated that sunburn or the local use of petroleum does not influence the rate of hair growth.

NEW DRUGS AND METHODS OF THERAPY.

Several new drugs have recently been introduced into dermatological therapeutics. Insulin has been used with remarkable success in the treatment of diabetic dermatoses by Engman and Weiss²⁶, Davis and Calhoun²⁷ and others. McDonough²⁸ advocates the use of manganese butyrate in the treatment of various skin disorders. Alderson²⁹ uses carbon tetrachloride as a fat solvent and in the treatment of seborrheic conditions. An important con-

tribution to the treatment of post-arsphenamine dermatoses has been made by McBride and Dennie³⁰ who obtained excellent results from the intravenous use of sodium thiosulphate.

516 Metropolitan Building.

BIBLIOGRAPHY.

1. Ebersson: Studies on the Etiology of Pemphigus. Arch. Derm. and Syph., 1923, 8:204.
2. Covey: Pemphigus Vulgaris. Arch. Derm. and Syph., 1924, 9:305.
3. Davis and Davis: A Contribution to the Treatment of Pemphigus. Arch. Derm. and Syph., 1923, 8:627.
4. Gerstenberger: Etiology and Treatment of Herpetic Stomatitis and Herpes Labialis. Am. Jour. Dis. Child., 1923, 26:309.
5. MacLeod: Lupus Erythematosus. Arch. Derm. and Syph., 1924, 9:1.
6. Wile, Wright and Smith: A Preliminary Study of the Experimental Aspects of Iodid and Bromid Exanthems. Arch. Derm. and Syph., 1922, 6:529.
7. Wile: Further Contributions to the Experimental Aspects of Iodid and Bromid Exanthems. Arch. Derm. and Syph., 1923, 8:407.
8. Gerstley: Dietary Considerations in Infantile Eczema. J. A. M. A., 1923, 80:1141.
9. Shannon: Eczema in Breast-Fed Infants. Am. Jour. Dis. Child., 1922, 23:392.
10. White: Infantile Eczema and the Examination of the Stools. Arch. Derm. and Syph., 1923, 7:50.
11. Strickler: Value of Toxin (Antigen) of Rhus Toxicodendron or Rhus Venenata in the Treatment and Desensitization of Patients with Derm. Venenata. J. A. M. A., 1923, 80:1588.
12. Bivings: Successful Desensitization and Treatment of Poison Ivy and Poison Oak Poisoning. Arch. Derm. and Syph., 1924, 9:602.
13. Knowles and Carson: Pruritus Ani. Arch. Derm. and Syph., 1923, 7:505.
14. Carrera: Injection of Glucose in the Treatment of Dermatologic Conditions. Arch. Derm. and Syph., 1923, 7:805.
15. Guy: Etiology of the Papulonecrotic Tuberculid. Arch. Derm. and Syph., 1923, 8:754.
16. Brams, Pilot and Davis: Studies of Fusiform Bacilli and Spirochetes. Jour. Infect. Dis., 1923, 32:159.
17. Bram: Isolation of Ducrey Bacillus from the Smegma of 30 Men. J. A. M. A., 1924, 82:1166.
18. Schamberg and Brown: A Study of the Blood Uric Acid in Diseases of the Skin. Arch. Derm. and Syph., 1923, 8:801.
19. McGlasson: Hyperglycemia as a Factor in Certain Dermatoses. Arch. Derm. and Syph., 1923, 8:665.
20. Schamberg and Brown: A Study of Some of the Inorganic Salts of the Blood in Psoriasis and Certain Other Dermatoses. Arch. Derm. and Syph., 1924, 9:368.
21. Pulay: The Importance of Blood Chemistry in Dermatology. Arch. Derm. and Syph., 1923, 8:175.
22. Lane: Newer Physiology of the Skin. Arch. Derm. and Syph., 1924, 9:176.
23. The Experimental Production of Herpetic Lesions. Editorial, J. A. M. A., 1924, 82:1049.
24. Bulliard: Influence of Shaving and Cutting on the Growth of Hair. Ann. Derm. et Syph., 1923, 6:386.
25. Trotter: Resistance of Hair to Certain Supposed Growth Stimulants. Arch. Derm. and Syph., 1923, 7:93.
26. Engman and Weiss: Xanthoma Diabeticorum Treated with Insulin. Arch. Derm. and Syph., 1923, 8:625.
27. Davis and Calhoun: Patient with Diabetic Dermatitis Treated with Insulin. Arch. Derm. and Syph., 1924, 9:340.
28. McDonagh: Manganese as a Chemo-Therapeutic Agent. Brit. Jour. Derm. and Syph., 1923, 35:98.
29. Alderson: Carbon Tetrachloride in Dermatology. Arch. Derm. and Syph., 1923, 8:411.
30. McBride and Dennie: Treatment of Arsphenamine Dermatitis. Arch. Derm. and Syph., 1923, 7:63.

THE FUNDUS CHANGES IN NEPHRITIS.—Examination of a considerable number of cases has convinced Joseph L. Behan, Brooklyn (*Journal A. M. A.*, June 10, 1922), that the eye is no index to kidney damage in the sense used by Moschowitz. Sclerosis of the retinal vessels represents the evidence of nature's defense, rather than a causative factor in the production of retinitis. The cause of the kidney pathology is the cause of the eye change. The ocular pathology does not exist because of the kidney change any more than the nephritis is the result of the eye change.

THE JOURNAL

OF THE

Missouri State Medical Association

OCTOBER, 1924.

EDITORIALS

PLAN TO ABOLISH THE MEDICAL EXPERT WITNESS

The state of the public mind toward medical expert witnesses particularly in murder trials is proverbially bad. For a long time the public has viewed the testimony of contending experts with distrust and suspicion and the verdict, whatever it might be, rendered by court or jury does not remove the sting felt by every member of the reputable medical profession. The trial of the two Chicago youths seems to have furnished the climax in the cry against sanity experts in criminal trials, for after the conclusion of that trial there was a chorus of appeals in the press for the abolition of the sanity experts.

The medical profession has not been unmindful of its equivocal position in these cases and has earnestly endeavored to make the medical expert witness a valuable adjunct of the courts. But the medical profession can do nothing alone in this direction, the co-operation of the legal profession and of the law making bodies being absolutely essential for the attainment of any result. This co-operation when in the past we have offered tentative suggestions, has been denied, so that as a medical profession we have been compelled to suffer many imputations upon our sincerity and accusations of indifference that were not deserved.

The Chicago trial having aroused the press and the people to the point of demanding the prevention of such spectacles in the future we hope the press, the bar and the legislature will co-operate in the plan already proposed by members of the medical profession to avoid a repetition of such unhappy scenes as occurred at Chicago. The plan was proposed by Drs. William Nelson and M. A. Bliss, of St. Louis, both of whom are authorities on mental diseases. According to this plan, expert witnesses hired by plaintiffs and defendants would be excluded from the trial. In the place of such unsatisfactory method, a commission of mental experts would be appointed by the court to examine the mental condition of the accused person and report their findings to the court before the trial. These experts would be practitioners of medicine engaged by competent authority to study the condition of a patient

placed under their care for diagnosis. The result of that examination and the character of the diagnosis could not be influenced by mercenary motives nor personal popularity, for the true physician does not allow such influences to affect him in his effort to arrive at a true diagnosis after he has once assumed the responsibility for the care of a patient. The report of such a commission therefore would be recognized as the decision of a commission whose sole object and purpose would be to ascertain the true condition as they found it.

Minority reports, should there be voices dissenting from the majority opinion, could of course be filed, but these would represent the honest opinion of honest men and would serve to give court and jury a comprehensive understanding of the condition of the accused person in all its phases. In this way the court and the jury would be supplied with the diagnosis, arrived at in a scientific, methodical and impartial manner and the physicians would escape the ordeals of the witness stand and be exempt from any suspicion of making a report biased by financial or sympathetic considerations.

We hope the plan proposed by the St. Louis physicians will receive the earnest attention of the legal profession, the courts and the members of the law making bodies so that the provisions may be constructed to meet every contingency and receive sympathetic support in the legislature. To this end the press of the state, having made it the duty of the medical profession to abolish the expert witnesses in such cases, should continue agitating the proposition until a solution of this troublesome question has been found.

A PHYSICIAN AS CANDIDATE FOR GOVERNOR

The medical profession of Missouri may take considerable pride in the knowledge that one of the principle candidates for Governor of Missouri is an honored member of our guild, although his life work has identified him with other fields of activity than the practice of medicine. We refer to Dr. Arthur W. Nelson, of Bunceton, the candidate for Governor on the Democratic ticket. Nominated for this high office not because he was a physician but in recognition of his highly successful career as a farmer and stock raiser and his achievements in financial circles, Dr. Nelson, nevertheless, has never lost his interest in the progress of medicine nor wavered in his allegiance to the tenets of a profession that demands of its adherents strength of character and devotion to high principles more exacting than probably is found in any other vocation in life.

Born on a farm in Cooper County, Missouri, with the instincts of a farmer inherited from his ancestors he decided when a young man that he would prepare himself for a field of activity other than farming in order that he might be prepared to follow some vocation if circumstances ever arose requiring him to do so. The practice of medicine appealed to him as a fruitful field of usefulness and he went to Tennessee, where he studied medicine and graduated from the University of the South Medical Department, in 1899. Following his graduation he, with another recent graduate, went to New York and completed a post-graduate course in the Post Graduate Medical School. Returning home he resumed his activities on the farm, his friend entering the practice of medicine. That Dr. Nelson has not lost his love for the profession, nor his appreciation of the influence of reputable medicine upon the welfare of the people, is shown in a letter published in this issue which he wrote to one of our members in reply to the latter's note of congratulation upon Dr. Nelson's nomination.*

We believe there are many of our members who would like to be informed concerning Dr. Nelson's attitude toward reputable medicine and public health generally, therefore we publish this short description of his medical career. If he is elected Governor of Missouri we believe the laws of this state pertaining to the practice of medicine and the protection of the health of the people will be safeguarded from invasion by ill considered and disastrous legislation.

*See page 354.

DEDICATION OF THE CAPITOL

Missouri's new State House, without doubt one of the most artistic buildings of its kind in this country, will be dedicated on October 6, and the people of Jefferson City are planning to make the occasion one of the most memorable in the history of the state. Although the building was completed several years ago and the legislature has held its sessions in the new Capitol, the dedication of the structure was delayed until the ornamental features had been completed so that the people when the dedication services were held could view the new building and take pride not only in its architectural beauty but in the numerous features that commemorate historic events in the growth of our state since its admission to the Union. We cannot at this time point out the numerous interesting features. Those who are privileged to see the Capitol in its glory at the time of its dedication may take pride in the knowledge that the adornments have been

wrought by master hands and that a high artistic standard has been maintained. The stained glass, the tapestries, the sculpture, the paintings and all the attributes that lend dignity and beauty to the building have been executed under the wise direction of the commissions of artists famous throughout the world as masters in their craft.

The medical profession may take particular pride when they visit this imposing building by remembering that one of our members, the late Dr. W. S. Allee, Senator from the 27th Senatorial District, was the guiding mind in the early movement for the collection of the funds for building the new Capitol and was chairman of the commission. If it is possible to regard a public building of this kind as a memorial to one man when so many persons were connected with its conception and erection it would be no discredit to his associates to say that through the genius of Senator Allee and his great popularity among the people this building will stand as a memorial to him.

We hope that a large proportion of the medical profession will swell the number that will undoubtedly tax the capacity of Jefferson City on the day when the Capitol will be dedicated.

RAPID TRANSIT IN LARGE CITIES

We observe a report of a committee of the Board of Aldermen, of St. Louis, proposing that \$100,000,000 be expended in the development of a rapid transit system in that city. The committee has just returned from a tour of inspection of the transit facilities in the large cities in the East and their report is emphatic in recommending that St. Louis has attained a period in its growth when the transit problems must be solved immediately if the city is to continue its growth and protect its people from the hazards of congestion on its streets by the traffic necessary to expedite the routine carrying on of business and provide for emergencies. There is one phase of this problem that can never be solved until additional facilities for rapid transit and quick business transactions requiring the use of the streets have been provided and that is the destruction of human life and the maiming of people. Safety councils, automobile clubs, business concerns and all who are interested in saving lives are at present attempting to devise rules and regulations and safety first principles, but we do not believe that any of these things will reduce the waste of human life until traffic congestion has been relieved. If pedestrians and drivers of vehicles could be controlled by rules, stop and go signals, perhaps there would be a lessening in the death rate from accidents but there are always those persons who will take a chance at every possible opportunity

and among the most cautious there are times when the impulse to take a chance against safety is overpowering, too often the one time that proves disastrous.

All that has been said about the traffic problems in St. Louis can apply with equal force to Kansas City. We hope that city will be able to find a solution for this problem which has been vexing the people in the metropolis on the western border of the state for a long time.

NEWS NOTES

DR. CHARLES E. PIERCE, formerly of Republic, has been appointed Assistant Superintendent of State Hospital No. 4, at Farmington.

DRS. FRENCH K. HANSEL and E. V. MASTIN of St. Louis, have moved their offices to Suite 1043-46 Missouri Theatre Building, Grand and Lucas Avenues.

DRS. H. SANDPERL, S. F. ABRAMS and J. C. KOPELOWITZ of St. Louis, have moved their offices to 730-36 Missouri Theatre Building, Grand and Lucas Avenues.

DR. JAMES R. McVAY, of Kansas City, has been appointed police surgeon to succeed Dr. Paul V. Woolley, resigned. Dr. McVay has been assistant police surgeon since February, 1923.

THE Jackson County Medical Society devoted its meeting of September 16 to memorial services for the late Drs. Jefferson Davis Griffith and William F. Kuhn, two pioneer members who died recently.

DRS. JOHN L. TIERNEY and GEORGE W. WILSON, of St. Louis, have moved their offices to Suite 1004-1014 Missouri Theatre Building. They are limiting their practice to diagnosis and the treatment of non-surgical diseases.

THE State Board of Health will hold an examination for applicants to practice medicine in Missouri at the Muehlebach Hotel, Kansas City, November 10, 11, 12. The practical examination will be conducted at the General Hospital, November 13.

DR. ROBERT ADCOX, of St. Louis, who is at liberty under bond on his appeal from a two-year prison sentence for diploma mill frauds, has been notified to appear before the state board of health October 13, to show cause why his license should not be revoked.

ACCORDING to news dispatches Dr. Carlos Copeland of Monett, and Dr. William H. Richardson, of Springfield, were arrested September 13 by federal narcotic agents charged with violating the Harrison Act. It is said that Dr. Richardson made a confession to the officers.

ANDREW O. LUDWIG, a chiropractor at St. Louis, was arrested September 25, on a warrant charging common assault and practicing medicine without a license. It is said that a woman had gone to Ludwig on August 4 for treatment and that he had dazed her with several blows on the back, consequently she asked for his arrest for common assault.

THE prosecuting attorney of Clark County followed up some information presented to him concerning the attempts of chiropractors to treat the sick and afflicted in that county and found the evidence of such character that he presented it to the grand jury. The grand jury returned indictments against the chiropractors, charging them with practicing medicine without a license. They will be tried at the next term of the circuit court.

IN recognition of the far-reaching developments of bronchoscopy in the diagnosis and treatment of diseases of the lungs and of esophagoscopy and gastroscopy in the diagnosis and treatment of diseases of the esophagus and stomach, the board of trustees and faculty of the Jefferson Medical College have created a new chair to be known as the Department of Bronchoscopy and Esophagoscopy. Dr. Chevalier Jackson, formerly Professor of Laryngology in the Jefferson has been elected to the professorship of the new department. Dr. Fielding O. Lewis has been elected to fill the chair of laryngology vacated by Dr. Jackson.

ON the occasion of its 25th annual meeting, the American Proctologic Society recently made a pilgrimage to London at the earnest request of the leaders of the proctologic specialty in England. Here, on July 9-11, they met in conjunction with the subsection on proctology of the Royal Society of Medicine with Mr. Aslett Baldwin, the President, in the chair.

Dr. William A. Beach, of Pittsburgh, started the session with an historical paper on "The Evolution of Proctology." Following this, Mr. Graemme Anderson, of London, gave a most interesting paper on "The Injection Treatment of Hemorrhoids." Dr. Louis J. Hirshman, of Detroit, described a new operation for "Rectal Prolapse," and this was followed by a paper on "Pruritus Ani," illustrated with mov-

ing pictures by Dr. J. F. Montague of New York.

The visiting American proctologists were most lavishly entertained by their English hosts, from the opening luncheon at the Royal Automobile Club to the closing banquet at the Hotel Langham, and all felt highly elated at the success of the European trip.

The officers of the American Proctologic Society elected for the year 1924-1925 are: President, Dr. Frank C. Yeomans, New York; vice-president, Dr. William A. Rolfe, Boston; secretary-treasurer, Dr. Jos. F. Montague, New York.

OBITUARY

WILLIAM D. DRAKE, M.D.

Dr. William D. Drake of Bolivar, Mo., for a quarter of a century a leading physician of Polk County, Mo., died suddenly at 1:30 a. m. May 9, 1924, at his home in Bolivar. On March 17, Dr. Drake was taken ill with an acute dilatation of the heart, following an attack of influenza from which he suffered a short time before, and from overwork. For several weeks his condition was critical but he rallied and seemed to have thrown off immediate danger. For ten days he was up and around but had not resumed his practice. The day he passed away had been an unusually good day with him. He seemed further along the road to recovery than at any time since his illness began. About 11 p. m., while reading he began to feel badly and at 1:30 a. m. he died. He was 48 years of age.

Dr. Drake graduated from the Missouri Medical College (now Washington University Medical School) in 1898, and began practicing that year with his father, the late Dr. W. G. Drake, who was a practicing physician of Polk County for nearly half a century. He took an active part in community affairs and for several years was a member of the City Council of Bolivar. He was secretary of the Polk County Medical Society for many years, a member of the Missouri State Medical Association and the American Medical Association. He was also secretary of the county pension board, local surgeon of the Frisco railroad, a member of the Association of Surgeons of the Frisco Railroad, and during the war served on the medical advisory board of Polk County. He was also a member of the Knights of Pythias and was a Past Chancellor.

The high esteem in which he was held was attested by all the physicians of Polk and adjoining counties and by the large number who attended the funeral. Dr. Drake is survived by his wife and four children and a brother, Dr. J. C. Drake, of Kerman, California.

W. B. REYNOLDS, M.D.

Dr. W. B. Reynolds, of Prairie City, a graduate of Ensworth Medical College, St. Joseph, 1901, and died at St. Joseph's Hospital, St. Joseph, July 14, 1924, following an operation for appendicitis. He was 49 years old. Dr. Reynolds was a member of Bates County Medical Society.

AUGUST F. EIMBECK, M. D.

Dr. August F. Eimbeck, of New Haven, a graduate of St. Louis Medical College (now Washington University Medical School), 1865, died September 1, 1924, following an attack of apoplexy. He was 82 years old. Dr. Eimbeck was a member of Franklin County Medical Society and in spite of his advanced age always took an active interest in the work of the society. He was the father of Dr. Wm. F. Eimbeck, also of New Haven.

ABRA C. PETTIJOHN, M. D.

Dr. Abra C. Pettijohn, of Brookfield, a graduate of Rush Medical College, Chicago, 1878, died at Long Beach, California, in April, 1924, aged 74 years. Dr. Pettijohn was a native of Indiana, receiving his preliminary education in the public schools there. Shortly after obtaining his medical degree he removed to Brookfield, where he continued to practice for a number of years. He was at one time superintendent of State Hospital No. 2, St. Joseph, and also served as superintendent of the Eastern Oklahoma Hospital for the Insane, resigning that position in 1918 to become resident physician of the Woodson Sanitarium, St. Joseph. He was a member of Linn County Medical Society.

CORRESPONDENCE

LETTER FROM DR. NELSON

ST. LOUIS, MO.

August 28, 1924

To the Editor:

It occurs to me that the following letter received by me recently is of sufficient interest to call the attention of the profession of this state to its contents. The statements contained therein are certainly definite and indicate that Dr. Nelson is alive to the interests of the people of the state and of the medical profession and therefore I am sending a copy of it to you for the reason that I believe it will be appreciated by our membership throughout the city and state.

With sincere personal regards, I am

Very truly yours,

HENRY J. SCHERCK.

The letter follows:

"DR. HENRY J. SCHERCK,
Century Building,
St. Louis, Mo.

DEAR DOCTOR SCHERCK:

Thank you for your good letter of the 18th. When the medical profession of Missouri takes into consideration the fact that I am a graduate in medicine and was admitted to the practice of medicine in 1900 and when they know that my relations with many of the prominent members of the medical fraternity of the state have been most cordial throughout the past three or four years, I am sure they will know that I stand absolutely and unqualifiedly for ethical medicine and all it implies in the medical profession. I believe my qualifications as an M. D. justify me in assuming that I can give the public health of Missouri intelligent consideration as Governor of this great State.

(Signed) A. W. NELSON."

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH
HAVE PAID THE STATE ASSESSMENT FOR ALL
THEIR MEMBERS)

- Chariton County Medical Society, December 13, 1923.
- Camden County Medical Society, January 17, 1924.
- Madison County Medical Society, January 19, 1924.
- Cooper County Medical Society, January 19, 1924.
- Platte County Medical Society, January 22, 1924.
- Morgan County Medical Society, January 23, 1924.
- Cape Girardeau County Medical Society, January 24, 1924.
- Clark County Medical Society, February 11, 1924.
- Dent County Medical Society, March 5, 1924.
- Adair County Medical Society, March 5, 1924.
- Howell County Medical Society, March 11, 1924.
- Taney County Medical Society, March 20, 1924.
- Webster County Medical Society, March 20, 1924.
- Vernon County Medical Society, March 22, 1924.
- Schuyler County Medical Society, March 24, 1924.
- Atchison County Medical Society, March 25, 1924.
- Ray County Medical Society, April 2, 1924.
- Ralls County Medical Society, April 28, 1924.
- Christian County Medical Society, May 1, 1924.
- Pulaski County Medical Society, May 10, 1924.
- Carter-Shannon County Medical Society, May 16, 1924.
- Ste. Genevieve County Medical Society, September 17, 1924.
- Monroe County Medical Society, September 23, 1924.
- Scotland County Medical Society, September 30, 1924.

MEDICAL SOCIETY OF ASSISTANT PHYSICIANS OF STATE HOSPITALS

The Medical Society of Assistant Physicians of the Missouri State Hospitals met in their bimonthly meeting at State Hospital No. 2, St. Joseph, August 13.

The society was called to order by Dr. D. H. Young, president, and the regular order of business being disposed of, the members present listened to a most excellent address by Dr. G. A. Johns, State Health Supervisor, who gave us a splendid talk along the lines of mental science together with many helpful ideas concerning the details of the work in our hospitals and the special duties of the hospital physicians. His ideas were well thought out and were replete with interest to every member present.

Dr. J. R. Bunch read a paper on "Paranoid Precox," presenting an interesting case. After a general discussion of this paper, the members made a tour of the wards of the institution, and found them to be in most excellent condition, reflecting much credit on the able superintendent, Dr. Porter Williams, and his staff. After a most sumptuous and delightful luncheon, the Society reassembled at 1 o'clock.

Dr. R. E. Doyle favored us with a paper on "General Paralysis of the Insane." The doctor discussed the leading types of this disease which were well detailed and illustrated by cases representing these types. This paper elicited discussion and praise from every member present.

Dr. Loyd T. Thompson followed with a paper on "Treatment of Paresis." The doctor's paper was most elaborate and brought out the latest methods of treatment of this very intractable psychosis. Discussions followed.

We were next entertained by a paper by Dr. C. S. Roberts on "Infective Exhaustive Psychosis." This was a very interesting paper and also elicited discussion.

The next paper was by Dr. E. D. Carroll on "Résumé of Cases for the Present Year and the Preponderance of Certain Psychoses." This was a fine paper and was very generally discussed.

We had the pleasure of having with us Dr. C. R. Woodson, former superintendent and Dr. Porter Williams, the present superintendent of hospital No. 2. By invitation both took part in the meeting and discussed the papers and cases presented.

This was indeed a most agreeable and profitable meeting and the society is under lasting obligations to Dr. Williams and his staff for many courtesies and especially for the fine meeting we had. After the adjournment the members were entertained at Bean Lake, where everyone had a delightful time.

The next meeting will be held at Mt. Vernon, Missouri.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society held its regular monthly meeting at Jackson, August 11, with the following members present: Drs. Zimmermann, Yount, Wilson and Shelby, of Cape Girardeau; Drs. G. W. Vinyard and D. I. L. Seabaugh, of Jackson; Dr. W. K. Statler, of Oakridge, and Dr. R. D. Blaylock of Pocahtontas.

The meeting was called to order by the president, Dr. Zimmermann.

On motion the minutes of the last meeting were approved as printed in the last issue of the *Bulletin*.

The board of censors having passed favorably on the application of Dr. Shelby, he was duly elected to membership in our society.

Dr. W. K. Statler's paper on "Obstetrics in Coun-

try Practice" was deeply interesting and showed much thought. It was discussed by all members present.

There being no other business the society adjourned.

D. I. L. SEABAUGH, M. D., Sec'y. Pro. Tem.

CLAY COUNTY MEDICAL SOCIETY

This society met in regular session at Kearney on Thursday, September 4, at high noon. A total of thirty members and wives were present. The visitors were, our splendid and beloved secretary-editor, Dr. E. J. Goodwin, of St. Louis; Drs. Eugene Hamilton, and R. L. St. Clair, of Kansas City, and Dr. and Mrs. Tadlock, of Holt. Our president, Dr. J. H. Rothwell, being detained on a case, hence absent, Dr. W. C. Hamilton, vice president, presided.

A dinner, served in the beautiful Baptist church grounds, opened the meeting. Drs. Rowell, Epler and Hamilton, assisted by their amiable wives, constituted the program committee. This dinner, passed upon by such epicures as Dr. F. H. Matthews and Dr. W. H. Goodson, was slated high up on our scroll of fame.

The ladies organized a county auxiliary, with Mrs. W. H. Goodson, president; Mesdames H. J. Clark, H. L. Tadlock, H. Rowell, and E. C. Hill, vice presidents; Mrs. J. E. Musgrave, secretary-treasurer; Mrs. J. J. Gaines, parliamentarian; Mrs. F. H. Matthews, corresponding secretary. These fine ladies will be heard from and bid fair to outshine the masculine wing of the society, if the feat be possible.

Dr. Eugene Hamilton gave an illustrated lecture on "Intestinal Obstruction," the stereopticon pictures illustrating many pathological conditions from infancy up, congenital and acquired. The talk embodied cases where surgical methods were best adapted with highly favorable results. A vote of thanks was extended Dr. Hamilton by the society.

Dr. H. L. Tadlock reported his own case, treated with insulin. The doctor emphasized the presence of enormous amounts of blood sugar, where urinary findings were negative to sugar. The talk was well-received and was full of "meat" for the man in every day general practice.

Dr. Mountain, from the State Board of Health, gave a running talk the movement to establish local medical health supervision—a trained physician, to be appointed by the court, to devote his whole time to the work of health betterment, both in epidemics and in general hygiene.

Dr. E. J. Goodwin gave a characteristic talk in which he complimented our society for its stability and efficient work and gave some well-timed hints on medical legislation.

Dr. C. H. Suddarth added to the interest of the occasion by observations in his practice and cases reported within his experience.

It was a good meeting. We have four delinquent members, due solely to neglect and inattention. This in spite of the danger of suspension, under a rule passed unanimously by the society last February. Membership in the Clay County Medical Society is worth many times its cost.

Adjourned to meet in Excelsior Springs the last Thursday in October.

W. C. HAMILTON, M.D., Chairman.
J. J. GAINES, M.D., Secretary.

THE HOWELL-OREGON COUNTY MEDICAL SOCIETIES

The Howell-Oregon County Societies met in the Masonic Hall at Thayer August 14, at 2:30 p. m.,

Dr. D. D. Cox president and Dr. E. C. Bohrer, secretary. Fourteen members were present and the Society was highly gratified to have as a guest Dr. E. J. Goodwin of St. Louis, secretary of the State Medical Association. The minutes of the last meeting were read and approved.

Dr. J. C. B. Davis, of Willow Springs, gave a very interesting presentation of three obstetrical cases which offered problems in diagnosis of complications. There was a general discussion of these cases and others of somewhat similar nature by all present with valuable points obtained and brought out.

Dr. A. H. Thornburgh of West Plains, gave the history and findings in an unusual case of double uterus with double pregnancy, one in each horn. Discussed by Drs. Hogan, Cox, Bohrer and Rhea.

Dr. E. J. Goodwin talked informally on medical problems concerned in politics, medical practice acts, cults, etc., especially as concerned in this state in keeping the standards up to their present basis and improving them as rapidly as possible. There was a general talk by all present on the various phases of this work.

Dr. P. D. Gum of West Plains, presented a short history of a case of juvenile diabetes on which he was using insulin.

Dr. J. C. Culp of Thayer, was elected to membership.

After the business and program session the society enjoyed a real feast given by the Thayer members at a six o'clock banquet. The excellence of the cooking will not be soon forgotten. Several impromptu speeches closed one of the most successful and enthusiastic meetings this county has held.

The next meeting is to be held at Pine Brook Inn, Siloam Springs, the health resort of this county.

E. CLAUDE BOHRER, M.D., Secretary.

STODDARD COUNTY MEDICAL SOCIETY

The members of the Stoddard County Medical Society and their wives were entertained by the president, Dr. T. C. Allen and Mrs. Allen, at their elegant bungalow in Bernie, on the evening of August 13. The program included a Symposium on Malaria, in which the following papers were offered:

The Biology of Malaria, Dr. W. J. Hux, Essex.

Tertian Malaria, Dr. J. M. Page, Puxico.

Estivo-Autumnal Malaria, Dr. J. L. Craig, Dexter.

Malaria as a Public Health Factor, Dr. Eldon Phillips, Bloomfield.

Masked Malaria, or Malaria Complicating Other Diseases, Dr. T. C. Allen, Bernie.

The Treatment of Malaria, Dr. S. S. Davis, Bloomfield.

Discussion opened by Dr. C. L. Bennett, Dexter.

Discussion closed by Dr. E. A. P. Briney, Bloomfield.

Dr. Hux's paper was quite scientific and brought out the discoveries of Laveran, Ross, Manson and Bass in detail. The paper of Dr. Allen dealt interestingly with the mimicry of malaria, which in malarial sections such as Southeast Missouri often simulates such diseases as neuritis, enterocolitis, etc., and complicates pneumonia, typhoid and other fevers.

Dr. Bennett in the discussion outlined the newer methods of treatment and stated the fact that massive doses of quinin by mouth are still found to be the most reliable means of eradicating the malarial plasmodium from the circulation. Drs. Newland and Lewis mentioned cases and methods from their experience in practice. Dr. Dieckman pleaded for the routine examination of the blood in the management

of malaria and its differential diagnosis. Dr. Briney in closing, quoted experiences from his large practice in the early days of Stoddard County when pernicious malaria and malarial hematuria were common.

After the scientific program, Mrs. Allen entertained with a social program consisting of esthetic dancing by the little grand-daughter of Dr. Goad and readings by his daughter, Mrs. Sayers. Tasty refreshments concluded the entertainment.

During the summer months, the Stoddard County Medical Society has had a series of meetings in the outlying towns of the county instead of meeting at the county seat.

Our programs are planned with a view to (1) Foster more cordial relations among brother practitioners; (2) Present rare and interesting cases before the members of the society; (3) Give a review of the more common problems of medicine as they present themselves to the practitioner and encourage each one to contribute something to the subject under discussion.

W. C. DIECKMAN, M.D., Secretary.

TEXAS COUNTY MEDICAL SOCIETY

Texas County Medical Society met at Houston, September 5, and elected Dr. E. P. Blankenship, of Houston, president, and Dr. Leslie Randall, of Licking, secretary-treasurer, both of these officers to serve until the end of 1924. The members voiced the opinion that the society should hold regular meetings in the future and endeavor to keep the society active and useful not only to the members but to the people in the county also.

The next meeting will be held at Houston, November 13, and the secretary was instructed to invite the secretary of the State Association to attend and also one or two others to give addresses.

Those present were: Drs. E. P. Blankenship, Wm. A. Covert, W. F. Herron and J. R. Womack, of Houston; W. T. Sillyman, of Theron; L. H. Wallen of Summersville; R. B. Tilley, of Plato; Roy E. Mitchell and Leslie Randall, of Licking.

LESLIE RANDALL, M.D., Secretary.

BOOK REVIEWS

TUBERCULOSIS AND THE COMMUNITY. By John B. Hawes, 2nd., M.D., Director, Clinic for Pulmonary Diseases and Assistant Visiting Physician, Massachusetts General Hospital. Cloth, Price, \$1.75. Pp. 168. Philadelphia, Lea & Febiger.

This is a very concise and complete little volume on a subject which deserves thoughtful consideration by laymen as well as physicians. The fifteen chapters cover the essential phases of tuberculosis as a public problem. The style is clear and readable, tiresome detail and irrelevant matter being conspicuously absent. The book should be read by everyone who wishes to understand the a, b, c of the campaign against the greatest enemy of mankind.

S. H. S.

MEDICAL BIOMETRY AND VITAL STATISTICS. Introduction to Medical Biometry and Vital Statistics. By Raymond Pearl, Ph.D., Professor of Biometry and Vital Statistics, Johns Hopkins University. Octavo of 379 pages, illustrated. Philadelphia and London: W. B. Saunders Company, cloth, \$5.00 net. 1923.

No science advances until it establishes units of measurement for its data. The subject matter of

biology does not easily adapt itself to quantitative estimations, but the branch of biology known as biometry has made great progress in tabulating large masses of biologic data in mathematical form. In this volume Professor Pearl, probably the foremost American biometrician, has done medical science an enormous service in placing in convenient form the technical methods of computing medical statistics. No physician who attempts to assemble his data in tabular form can afford to be without a copy.

Professor Pearl is known as the author of "The Biology of Death," a mathematical treatise of fascinating interest. He is also known as a student of the alcohol problem who has not let himself be swayed by demagogic prejudices and who states as the result of old cold mathematical deductions that moderate drinkers live longer than total abstainers.

The present volume presents chapters on the history of vital statistics, tabular presentation of statistical data, the mechanical tabulation of medical records, life tables, standardized death rates, the measurement of variation, the making of various forms of graphic charts and tables, etc. All these things are in constant use in medical reports and should be studied by all medical literati.

It is unfortunate that Dr. Pearl has made many of the chapters such difficult reading for those whose minds have not wrestled with mathematical problems for a long time. Perhaps this is inherent in the nature of such a treatise as this which aims more at a description of methods than a study of results of mortality rates, death rates, disease incidence, etc. The chapter on the history of vital statistics is most interesting. We suggest to Dr. Pearl that he furnish the medical profession with a book which will discuss the actuarial tables of insurance companies, their experience with various diseases, death rates, disease incidence, etc., in popular form. L. C.

DISLOCATIONS AND JOINT-FRACTURES. By Frederic J. Cotton, A.M., M.D., F.A.C.S. Visiting Surgeon to the Boston City Hospital, Consultant Surgeon to the N. E. Hospital for Women and Children. Associate in Surgery, Harvard Medical School. Second edition. Reset with 1,393 illustrations from drawings by the author. Philadelphia and London. W. B. Saunders Company. 1924. Cloth, \$10.00 net.

When the reviewer was an interne in the New York Hospital in 1897, "Stimson" was our text book on Fractures and Dislocations. It was an admirable work, yet it was the despair of a busy interne. There was so much to be waded through to find just what was needed for the case at hand and often the common variety was not stressed in contrast with the rare conditions. The directions for treatment were not always simple and practical.

It was a great relief to a busy man when "Scudder" on Fractures was published some years later. I believe Dr. Cotton assisted in the preparation of this first concise practical little volume.

Cotton's treatise on Dislocations and Joint Fractures has many of the virtues and faults of Stimson. It is invaluable in that it presents all the varieties of lesion included in its field; brought thoroughly up to date in the light of the mass of X-ray pictures available and the knowledge gained by operative exposure. It is impossible to thoroughly review such a book in the limited space available. We can only inspect carefully a few selected subjects.

Forty-two pages are devoted to Colles Fracture. The description of all the varieties is accurate and instructive. The stress laid on the "total displacement backward and the rotation backward of the lower 'fragment' is important. The emphasis placed on the "forward displacement of the ulna" and the part it plays in subsequent disability is timely. One

may wish that the author had said more simply that the alteration in the plane of the joint line and the consequent alignment of the hand was the important thing. Or still more briefly: look at the lower end of the lower fragment instead of the upper end when trying to decide whether the fracture is well enough set.

As a professional specialist on fractures, the writer profited by careful reading of the treatment. He cannot but wonder, however, what an intern or a general practitioner would get out of it. Such a confusive number of grips and such shifting of grips! The reviewer has no reason to complain of his results in Colles' fractures, yet one grip (Cotton's Number Three) has usually been sufficient, with an oblique caliper-like grip from the other hand to bring pressure on the other two "proper points." Cotton's newest and best method depends on felt pad pressure between equal length anterior and posterior splints. If the three pads, each of different size and thickness, are just right, the result is probably excellent. If there is any error in the pads or if they are not firm enough it is likely to be very bad. The directions as to frequent inspection and follow-up X-rays are important. His instructions are that in most cases the anterior splint may be left off in ten days and only a protective splint, loosely strapped, used after the second week with an adhesive plaster or leather cuff during convalescence, also that full and free flexion of the fingers should be encouraged after a few days. This may seem a little radical but is worthy of consideration by all who treat these fractures. There is no doubt but that most Colles' fractures are immobilized too tightly and too long.

The real value of this book is well exhibited in the next chapter, "Injuries of the Carpus." This neglected or poorly understood subject is treated fully and helpfully. There ought to be several notes scattered through the section on Colles' fracture saying in effect "in every Colles think of the carpal bones, look at the scaphoid in the X-rays, read what I have to say about them in the next chapter."

The section devoted to fractures about the elbow is subject to much the same criticism as that on lower radial fractures. The good points especially noted by the reviewer are as follows: First, the lesser number of indications for the acutely flexed position and the greater use of the internal angular splint at a right angle. Second, the direction to carry out the reduction procedures with the arm in marked outward rotation.

The section on Pott's fracture and allied lesions is excellent and the directions for treatment simple.

An admirable feature of Cotton's book is the consideration given to operative procedures to correct mal-union in various fractures. R. M. S.

LIFE SHORTENING HABITS AND REJUVENATION. I. The ten chief life shortening habits. II. The rapid aging of women. III. Rejuvenation. By Arnold Lorand, M.D., Carlsbad, Czecho-Slovakia. Philadelphia. F. A. Davis Company. 1924. Price \$2.50.

This is a book that can be read with interest by the layman as well as the physician, as those who have read Dr. Lorand's previous books are well aware. If any of us were asked to write down the ten most important life shortening habits, how closely would they correspond with Dr. Lorand's list? He discusses the following: alcohol, over-eating, tobacco, sexual indiscretion, uncleanness, ambition, avarice, anger, vanity and avoidance of parenthood.

In regard to alcohol he states that he does not drink, and he deplores the abuse of it, "but that alcohol in small quantities is not dangerous to grown-up persons is a fact referred to in every manual of pharmacology, wherein it is likewise stated that in

small doses it is a useful tonic." In his chapters on rejuvenation, the Steinach operation is discussed, as well as the use of animal gland preparations and other drugs. Two chapters are devoted to the use of quartz light therapy (ultra-violet rays) in the production of youthful appearance and rejuvenation. In the author's hands the proper application of this active therapy has proven of marked value.

In general it may be said that the book, though skimming lightly the scientific side of many problems, is good reading. R. L. T.

INTRAVENOUS THERAPY. Its application in the modern practice of medicine. By Walton Forest Dutton-Chirurgical Hospitals, graduate School of Union, M. D., Medical Director, Polyclinic and Medversity of Pennsylvania. Illustrated with fifty-nine half-tones and line engravings, some in colors. Philadelphia. F. A. Davis Company, publishers. 1924. Price \$5.

The present widespread practice of intravenous medication justifies the collection of all the available data on the subject between the covers of a single volume. After all is said and done, the fact remains that the technic of intravenous work can only be acquired by considerable practice. The indications for intravenous therapy, however, are another matter and a considerable sized textbook may well be filled with such consideration. While there are more than a hundred diseases listed and discussed by the author as worthy of approach by the intravenous route, nevertheless the most important part of the volume is limited to two conditions only, i. e., blood transfusion and syphilis. Under blood transfusion the direct and indirect methods, blood grouping, dangers and special application, are considered. There is a chapter on intravenous therapy in pediatrics which discusses the sinus routes and other methods of approach in infants.

Considerable space is devoted to a consideration of arspenamin and the allied arsenicals. The use of neoarsphenamin is given much consideration because of its ease of administration, but the fact that it is not so efficient and does not influence the Wassermann reaction as does the older preparation is noted.

It would be easy to make a number of criticisms, particularly of omissions, but this is always true, particularly of any first edition. Dangers of salt solution injections, changes of group in a given individual, etc., should be important enough to discuss. Omission of pictures of cutting down on a vein would not put bad ideas into the head of a practitioner not trained to find a vein without cutting. We would also suggest that no knowledge of technic could ever be gained, even by the most intensive study of the illustration, of "method of injection into the femoral vein." R. L. T.

CLINIQUE MEDICALE DE L'HOPITAL BEAUJON. By Ch. Achard, Professeur de Clinique Médicale à la Faculté de Médecine de Paris. Membre de l'Académie de Médecine. Masson et Cie, Editeurs. Libraires de l'Académie de Médecine 120, Boulevard Saint-Germain; Paris. 1923. Price, 25 fr.

This is a volume of clinics comparable very much to the Clinical Medicine of Barker, which was a resumé of his work in the Tuesday clinics at Johns Hopkins. Like his it is extremely interesting and covers in a concrete way many different subjects.

Among the subjects treated we notice septicemia, puerperal infections, scarlet fever, diphtheria, tetanus, meningitis, typhoid vaccination, superior forms of tinea, scleroderma, disease of Recklinghausen, and several articles on Graves' disease or exophthalmic goiter.

The Clinic is charmingly written and the historical material is well arranged. Of course, the standpoint

is French instead of German or British, and European rather than American. For example, it is somewhat confusing to read an article on Recklinghausen's disease and try to make it fit in with what one would read in an American textbook on the same subject. Nevertheless it is worth while to make such comparisons and to read such accounts as this from time to time.

Like the Medical Clinics of North America this volume which shows the work of our French colleagues would be of inestimable value to anyone looking up the subjects for themselves or contemplating a visit to Paris.

G. H. H.

THE PLASTIC AGE. By Percy Marks, Professor Brown University, 12mo, 332 pages. New York and London. The Century Co., 353 Fourth Ave., New York. Price \$2.00.

At last we have been given a vivid and accurate picture of modern American college life.

Peter Marks has been for years and is now a college instructor. One senses this in reading "The Plastic Age," for only a man who had spent years in close contact with college students could have brought before us the group of young men we meet in this book. These chaps are not the grown-up little boys of the average college story.

The author presents the atmosphere of the modern college and fraternity life in so realistic a way that we live with this bunch of fellows through four years of student life. Not all of them are cultured, or fine, or brilliant. Some of their escapades are not pretty but they are all very human and typical of modern young men at the most serious, extravagant, impulsive and introspective age.

The book is more than a mere word picture—there is revealed to us a fresh enthusiasm, an idealism and earnest psychology which will make many an alumnus regret that all college faculties are not composed of men with the keen understanding and tolerance shown by Peter Marks.

G. K. H.

COSMETIC SURGERY. The Correction of Featural Imperfections. By Charles C. Miller, M.D. With 140 illustrations. Philadelphia. F. A. Davis Company. 1924. Price, \$4.00.

This is a small volume, 260 pages all told, dealing with surgery for the beautifying of the face. Such conditions as sagging jowls, baggy eye lids, crows' feet, forehead, face or neck wrinkles, etc. In general all of those tell-tale conditions which mark the flight of time for the individual face are discussed and the remedial operation for the eradication of each described. In addition the author describes his method for curing hump nose, but no cure for saddle nose, large ears or outstanding ears! Thin lips are thickened and thick ones are thinned, the everted can be inverted and vice versa; dimples are made; mouths enlarged or made smaller and even "the face lifted"! Just like that.

It is all right; these things have been done, are being done and will continue to be done; but why is it that the publishers of books cannot make photographs of people and thus show us some convincing results? All the photographs are photographs of drawings. Verily ye artist can "make the thing that is not as the thing that is" and the artist in this book has done the surgery, and, by the way, have you ever noticed how much of the plastic surgery as illustrated by the published articles and text books has been done by the artist? Of course, you wouldn't notice it because maybe you are not onto the game, but most of it is done just that way.

As a scientific contribution this book is not of great value, but it has a certain interest.

W. T. C.

SOCIAL CONTROL OF THE FEEBLEMINDED. By Stanley P. Davies, Ph.D., Executive Secretary, Committee on Mental Hygiene, New York State Charities Aid Association. The National Committee for Mental Hygiene, 370 Seventh Ave., New York.

We welcome this book as the first general survey of the entire field of mental deficiency in this country.

The history of the very gradual recognition of the wide-spread prevalence and social implications of mental deficiency, of the changing beliefs as more knowledge came to hand, is especially interesting.

The analysis of the Army findings is conservative and illuminating. The stage at which we believed that all of the feeble-minded should be segregated and found that not even the richest state could possibly provide for half of them; the belief in the nearly universal hereditary causation; with the discovery that only a little over half of Dr. Fernault's cases proved to be so explained; all are discussed fully.

The most forward steps taken are described. Mental defect in relation to crime and immorality; social and industrial efficiency; the supervision in the community of institutionally trained persons; the plans proposed for the solution of many perplexing problems, are discussed.

To one seeking enlightening information in this field this book will be a vade mecum.

M. A. B.

APPLIED PSYCHOLOGY FOR NURSES: AN INTRODUCTION to. By Donald A. Laird, Assistant Professor of Psychology, University of Wyoming, Lecturer in Nursing Psychology. Illustrated. Philadelphia and London: J. B. Lippincott Co., 1923.

Psychology seems to be invading nearly every field of human endeavor but it would seem that in scarcely any other than in the nurses' profession would careful instruction in this science be of greater practical benefit. It is necessary for the nurse to study not only her patient's mental processes but her own as well.

Doctor Laird has produced, in our opinion, a very effective guide. Chapter eight on "Gaining Skills" and chapter nine on "Skill in Thought" and the following discussion on alternating activity and rest, are especially helpful.

In the chapter on the gentle art of forgetting one wonders if he may always recall the impulse to recall in time to catch himself on the toboggan slide of the first twenty-four hours. If one could just apply all that Doctor Laird suggests he would in the language of the small boy "get educated and stay so."

For nurses and for those who lecture to nurses, this book is practical and helpful. It no doubt grew out of the necessity Dr. Laird found to redraft the teaching of the text books for presentation to nurses.—M. A. B.

CLINICAL ASPECTS OF THE ELECTROCARDIOGRAM. A Manual for Physicians and Students. By Harold E. B. Pardee, M.D., Associate in Medicine, Cornell University Medical School. Cloth. Price, \$4.00. Pp. 222, with 56 illustrations. New York: Paul B. Hoeber, Inc., 1924.

This book is a compact compilation of the current knowledge of the electrocardiogram. It includes chapters on interpretation, hypertrophy of the chambers of the heart, changes due to myocardio diseases, disturbances in rate and rhythm, clinical significance of abnormal waves, examination of patients, description and operation of the machine, and a rather complete bibliography.

The well-known experience of the author in the fundamental principles together with his extensive clinical experience make a book from him on this subject worthy of consideration.

The author prefers to use the word predominance instead of preponderance as used by most other writers on this subject. While there is no serious objection to this I do not see any great advantage, for it is pretty clearly understood by most students in this field that by preponderance is not always meant simply an hypertrophy of one or more chambers of the heart.

P. T. B.

MIND AND MEDICINE. By Thomas W. Salmon, M.D. Professor of Psychiatry in Columbia University. New York: Columbia University Press. 1924.

At the opening session of the College of Physicians and Surgeons of Columbia University in September of 1923, Dr. Salmon gave an address with the above title. None who know Dr. Salmon would wonder why he was selected, but those patient "watchmen on the towers" who have long scanned the horizons of medicine for a faint dawning of recognition of the broad and fertile field of psychiatry view the selection of a psychiatrist with much satisfaction.

Few men are so well equipped as Dr. Salmon to present the claims of psychiatry on the attention of the faculty and students of the great university whose professor of psychiatry he is. He will, if anyone can, lead to a greater appreciation on their part of the great scientific achievement and the vast humanitarian betterment that will surely come when at last as intensive work is done in mental medicine as has brought about our recent brilliant advances in other fields of medical research.

The extent and degree of human suffering due to mental illness demand the utmost effort of scientific research.

M. A. B.

GUIDE POSTS FOR MOTHERS. A Manual on the Moral, Mental and Physical Development of the Child; also a Treatise on Diseases. By Clifford E. Sanders, M.D. St. Louis. The Metropolitan Publishing Company. 1924.

A very excellent little book. The chapters on moral and mental development are very good. Some of the space devoted to a discussion of the symptoms and treatment of disease might profitably have been used in a more extensive presentation of the artificial feeding of infants.

J. Z.

THE RELATIVE POSITION OF REST OF THE EYES AND THE PROLONGED OCCLUSION TEST. By F. W. Marlow, M.D., M.R.C.S. Eng., F.A.C.S., Professor of Ophthalmology in the College of Medicine, Syracuse University. Cloth, 104 pages, illustrated with original diagrams and charts. Philadelphia. F. A. Davis Co. 1924. Price, \$2.50.

The essential character and details of the prolonged occlusion test have been presented by the author in a number of papers. This monograph discusses this method at length and in greater detail and gives the results he has obtained with it in the diagnosis and treatment of latent ocular deviations.

Records of seven hundred cases to which the test was applied form the material for this study. The period of occlusion varied from one to twenty-seven days, the majority being occluded for seven days. The last named period seemed sufficient to determine, in most cases, the "position of rest," *i. e.*, the relative position which the eyes assumed when freed from the stresses of binocular vision.

The author is skeptical as to permanent benefit derivable from prison exercises in any of the forms of heterophoria. On the other hand, his experience in the prescription of prisms for constant wear has been satisfactory and has led him to the following conclusions:

"In low degrees of exophoria, *i. e.*, up to 4° or 5°

(refracting angle), the greater part or all the error found after occlusion can often be corrected with advantage."

This little work will well repay careful study.

J. G., Jr.

GOITER. NONSURGICAL TYPES AND TREATMENT.—By Israel Bram, M. D., Instructor in Clinical Medicine, Jefferson Medical College, Philadelphia, Pa.; member of the Society for the Study of Internal Secretions, etc. New York. The Macmillan Company. 1924.

Dr. Bram writes a thesis to prove certain opinions which he has formulated from his practice rather than a book embodying the careful weighing of scientific data both pro and con. Nevertheless, every physician who has any considerable number of goitrous patients should read this text.

Dr. Bram devotes considerable attention to the anatomy and physiology and pathology of the thyroid. He tries to make a classification of goiter which would enable his readers to differentiate the surgical from the non-surgical. But your reviewer must confess that he is left without a clear picture of the differential diagnosis between the two conditions.

Dr. Bram does not lay as much stress on calorimetry as we think necessary. Dr. Bram on the other hand depends upon his quinine test to indicate the presence of hyperthyroidism.

The book is fully illustrated by photographs of Dr. Bram's patients. These photographs are extremely interesting but confuse rather than clarify the picture of non-surgical goiter.

The most important thing to learn from the book is probably that exophthalmic goiter is a systemic disease rather than a local one and that the condition is to be corrected by systemic treatment rather than by the simple removal of a piece of the thyroid gland. The sooner the profession realizes this fact the better will be the health of the American people.

G. H. H.

PRACTICAL CHEMICAL ANALYSIS OF THE BLOOD. A Book Designed as a Brief Survey of This Subject for Physicians and Laboratory Workers. By Victor Caryl Myers, M.A., Ph.D., Professor and Director of the Department of Biochemistry, New York Post-Graduate Medical School and Hospital. Second edition. Cloth. Price, \$5. Pp. 232, with 33 illustrations. St. Louis: C. V. Mosby Company, 1924.

The second edition of this well known monograph on the systematic analysis of blood is better than the first edition. The author has drawn from the most recent literature, and it is valuable to the blood chemist and to the physician in the diagnosis and treatment of disease.

Generally only a single method is given for each constituent that is used by the author, which includes the new and more simplified methods.

The Folin-Wu system of blood analysis forms a chapter. A summary of the clinical values of blood chemistry follows with a full account of laboratory materials used, together with tables of logarithms, weights and metric equivalents.

A. J. W.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

POTASSIUM BISMUTH TARTRATE, D. R. L.—A basic potassium bismuth tartrate containing from 64 to 69 per cent of bismuth. For a discussion of the actions and uses see Bismuth Preparations in the Treatment of Syphilis (*Journal A. M. A.*, August

25, 1923, p. 661). Potassium bismuth tartrate, D. R. L., is supplied only in the following forms: Ampules potassium bismuth tartrate with butyn, D. R. L., 0.1 Gm. (containing potassium bismuth tartrate, D. R. L., 0.1 Gm. suspended in 2 Cc. of a 0.6 per cent solution of butyn in a fixed oil); ampules potassium bismuth tartrate with butyn, D. R. L., 0.2 Gm. (containing potassium bismuth tartrate, D. R. L., 0.2 Gm. suspended in 2 Cc. of a 0.6 per cent solution of butyn in a fixed oil). The product is administered intramuscularly. The Abbott Laboratories, Chicago.

SCARLET RED SULPHONATE.—The sodium salt of azo-benzene-disulphonic-acid-azobetanaphthol. The actions and uses of scarlet red sulphonate are essentially the same as those of scarlet R medicinal Biebrich (see New and Nonofficial Remedies, 1923, p. 275). It is marketed only in the following forms: scarlet red emulsion, 4 per cent, P. D. and Co., scarlet red ointment, 5 per cent, P. D. and Co., scarlet red ointment, 10 per cent, P. D. and Co., Parke, Davis and Co., Detroit. (*Journal A. M. A., January 19, 1924, p. 209.*)

ERGOT ASEPTIC.—A liquid extract of ergot containing the soluble constituents of the drug. It is standardized biologically so that 1 Cc. represents 2 Gm. of ergot. The actions and uses of ergot aseptic are the same as those of ergot. The dose is 1 to 2 Cc. injected intramuscularly. Ergot aseptic is marketed only in 1 Cc. ampules. Parke, Davis and Co., Detroit.

LOEFLUND'S MALT SOUP STOCK (DR. KELLER'S FORMULA).—A preparation essentially similar to extract of malt U. S. P., but containing a small amount of potassium carbonate. Loefflund's malt soup stock is designed for use in preparing the malt soup of Dr. Keller. Britt, Loeffler and Weil, New York. (*Journal A. M. A., January 26, 1924, p. 303.*)

ETIOLOGIC STUDY OF A SERIES OF OPTIC NEUROPATHIES.—An analysis of eighty-six cases of various optic neuropathies was made by Alan C. Woods and J. Ralph Dunn, Baltimore (*Journal A. M. A., April 21, 1923*). The following etiologic causes were found to be operative: syphilis, 40 per cent; sinus disease, 12.7 per cent; brain tumors, 11.6 per cent; multiple sclerosis, 5.8 per cent; toxic amblyopia group, 11.6 per cent; scattering, 3.5 per cent; undetermined, 14 per cent. The acute cases observed secondary to sinus disease all gave the clinical picture of a retrobulbar neuritis, without ophthalmoscopic evidence of inflammation or elevation of the papilla.

A TYPE OF POSTOPERATIVE FEVER, PROBABLY MALARIAL RELAPSE.—J. S. Horsley, Jr., Richmond, Va. (*Journal A. M. A., April 14, 1923*), is of the opinion that certain postoperative fevers occurring during the summer and early fall months in patients who have lived in a malarial district are due to malarial relapses. In three typical cases of postoperative malarial relapse cited, the therapeutic test for malaria caused the clinical symptoms to disappear. Horsley urges that the standard treatment recommended by the national committee be followed in these cases.

POSITIVE WASSERMANN TEST IN A FATAL CASE OF ESTIVO-AUTUMNAL MALARIA.—This case is reported by Guthrie McConnell, Cleveland (*Journal A. M. A., April 21, 1923*), because of the control of a positive Wassermann reaction by necropsy in a case of malaria, that clinically showed no evidence of syphilis in spite of the history of infection. The necropsy, however, disclosed very definite syphilitic lesions of the aorta, with involvement of the aortic leaflets.

PITUITRIN "S" (SURGICAL).—A slightly acid aqueous extract of the posterior lobe of the pituitary body of cattle, approximately six times the strength of Solution of Hypophysis U. S. P., containing 0.5 per cent of chlorbutanol as preservative. For a discussion of the actions and uses of pituitary preparations, see Pituitary Gland, New and Nonofficial Remedies, 1924, p. 225. The preparation is supplied in the form of Ampules pituitrin "S" (surgical), 1 Cc. Parke, Davis and Company, Detroit. (*Journal A. M. A., April 19, 1924, p. 1,265.*)

EARLY RECOGNITION AND ECONOMIC ASPECTS OF HEART DISEASE.—Robert H. Halsey, New York (*Journal A. M. A., April 7, 1923*), directs attention to the survey recently completed by the Association for the Prevention and Relief of Heart Disease of ten hospitals of New York City, having 7,799 beds, representing nearly 25 per cent of the hospital beds (32,000) of the city, which showed that 4,831 patients were cared for, requiring 244,521 bed days, or nearly 10 per cent of the total capacity (2,836,635 bed days) of those hospitals. The average daily cost was \$2.69, and amounted to a total of \$658,379.10, an average cost for each patient of \$1,961.17. Nov. 1, 1922, there were registered in forty-three cardiac clinics in New York 5,904 patients, or approximately 25 per cent of the patients visiting all the outpatient departments of the city in one month. This proportion is somewhat larger than one person in every thousand (0.1 per cent) of the total population of New York City, 5,751,859, who are under special care for organic heart disease. This group represents an economic loss of at least \$600,000, and, considered with the group cared for in the hospital beds, shows that New York City had a known loss or expense of \$1,250,000 last year. This does not consider loss from impaired productivity because of unrecorded or unrecognized heart disease. The care of ambulant and bed patients with heart disease costs a large outlay in actual funds each year. Halsey urges that there is need of more education of the laity and of the profession to procure a periodic examination of the sick and the well. A program must be devised which all public health agencies, correlated and coordinated, can execute without duplication of effort. With a promising program, the community can and undoubtedly would give its support.

ORIENTAL SORES (CUTANEOUS LEISHMANIASIS) IN THE UNITED STATES.—Robert A. Lambert, New Haven, Conn. (*Journal A. M. A., April 7, 1923*), warns that early recognition of this lesion is particularly important, if the establishment of the disease in the United States is to be prevented. The two cases of oriental sore in the United States reported by Lambert make a total of ten cases recorded in the last two years. There is a possibility of a long incubation period. In one of the reported cases, the lesion did not appear until three months after the patients' arrival in the United States, and probably eight months after infection. Biopsy is advocated in suspected cases, the specific protozoa (*Leishmania tropica*) being more readily demonstrable in properly stained sections than in smears.

THE LIFE INSURANCE VALUE OF GRAPHIC HEART RECORDS.—S. Calvin Smith, Philadelphia (*Jour. A. M. A., April 7, 1923*), asserts that it is possible, by electrocardiography, to detect heart affections that cannot be recognized by any other method of examination. Thus, electrocardiography is of importance in any life insurance or other examination in which a knowledge of the physical fitness of the individual is of first consideration. There are certain pulse irregularities that are not an evidence of heart disease, and graphic records that establish the physio-

logic character of such irregularities are additional warrant for the acceptance of the applicant for insurance. The heart can protest, symptomatically and physically, against the effect of toxins without being structurally diseased, and such heart protests will often disappear on removal of the cause, thus rendering the applicant insurable. The routine employment of cardiographic investigation will prevent economic losses to insurance companies in three ways: (1) by determining the innocent nature of certain pulse irregularities which might be considered cause for rejection by those insufficiently trained in modern cardiology; (2) by furnishing written evidence that a remediable heart fault has been corrected, and (3) by furnishing definite, indisputable evidence of structural heart muscle defect that is impossible of determination by any other method of examination.

PARTIAL OBSTRUCTION AT DUODENOJEJUNAL JUNCTION AS CAUSE OF ULCER OF DUODENUM.—Since 1911 E. P. Sloan, Bloomington, Ill. (*Jour. A. M. A.*, April 7, 1923), says he has demonstrated fifty-two times at operation that duodenal ulcer and partial obstruction at or near the duodenojejunal flexure were present at the same time, and that surgical relief of the partial obstruction permitted the duodenal contents immediately to pass freely down into the jejunum. This makes, with the two cases reported in this paper, fifty-four cases. In fourteen, a definite jejunoscolic band was present. In ten, veils or light adhesions, seemingly of inflammatory origin definitely kinking the jejunum near its origin, were found. In nine, the obstruction was due to the irregular shape of the opening through the mesocolon or to the ligation of Treitz. In six of them the duodenum was ptosed to such an extent that a very acute angle was formed at its terminal portion. In fifteen cases the obstruction was due to more than one of these causes. These fifty-four cases of duodenal ulcer in which gastro-enterostomy was not done were selected from a series of 264 consecutive cases of duodenal ulcer. In the other 210 cases, gastro-enterostomy was done.

COD-LIVER OIL-SQUIBB.—It has a content of fat soluble vitamin-A, which is more than one hundred times that of best quality butter. For a discussion of the actions and uses of cod liver oil, see *Useful Drugs*. The average dose is 15 Cc. E. R. Squibb and Sons, New York. (*Journal A. M. A.*, April 5, 1924, p. 1,123.)

SAGROTAN.—A liquid composed of chlor cresol 8 per cent, chlorxylenol 4 per cent, soap 22 per cent, alcohol 9 per cent, and water 57 per cent. Sagrotan is an antiseptic and germicide. The germicidal efficiency of sagrotan is stated to be 2.5 times that of an equal quantity of phenol. While the germicidal efficiency of sagrotan is almost equal to that of compound solution of Cresol U. S. P., it has the advantage over this preparation in that it is almost odorless; also, it is claimed to be less toxic. Lehn and Fink, New York.

PROCAINE-EPINEPHRINE AMPULES, 1 Cc.—Procaine-Abbott, 0.02 Gm., epinephrine 0.00004 Gm. in Ringer solution, 1 Cc. The Abbott Laboratories, Chicago. (*Journal A. M. A.*, April 12, 1924, p. 1,199.)

DEODORIZED KEROSENE-WELTY.—Kerosene which has been treated so as to remove the odorous constituents of commercial kerosene. Because of its solvent action on fats, deodorized kerosene-Welty is proposed for us as a pediculocide and as a means of removing dandruff and the detritus of wounds. Welty Company, Chicago.

ANTERIOR PITUITARY TABLETS-ARMOUR, 2 GRAINS.—Each tablet contains desiccated pituitary substance

(anterior lobe)-Armour (see *New and Nonofficial Remedies*, 1924, p. 226), 2 grains. Armour and Company, Chicago.

PITUITARY TABLETS-ARMOUR, 2 GRAINS.—Each tablet contains desiccated pituitary body-Armour (see *New and Nonofficial Remedies*, 1924, p. 226), 2 grains. Armour and Company, Chicago.

PARATHYROID TABLETS-ARMOUR, 1/10 GRAIN.—Each tablet contains desiccated parathyroid gland-Armour (see *New and Nonofficial Remedies*, 1924, p. 224), 1/10 grain. Armour and Company, Chicago.

PATCH'S FLAVORED COD LIVER OIL.—Cod liver oil containing 0.5 per cent of essential oils as flavoring, and having a vitamin potency so that 0.002 Gm. per day is adequate to promote the growth of young albino rats. For discussion of the actions and uses of cod liver oil, see *Useful Drugs*. The dose is not more than 4 Cc. (1 fluidrachm) 3 times a day. For children not more than 2 Cc. (30 minims) 3 times a day. E. L. Patch Co., Boston.

VITALAIT CULTURE BACILLUS ACIDOPHILUS.—A pure culture of *Bacillus acidophilus* in vials each containing about 7 Cc. It contains not less than three hundred million of viable organisms (*B. acidophilus*) per cubic centimeter at the time of sale. For a discussion of the actions and uses of cultures of *B. acidophilus*, see *Lactic Acid-Producing Organisms and Preparations*, *Jour. A. M. A.*, Sept. 8, 1923, p. 831. The usual dosage is the contents of one vial diluted with water and followed by a quantity of sugar of milk. The culture is distributed by the manufacturer only and is sent by mail. The Vitalait Laboratory of California, Pasadena, Calif. (*Jour. A. M. A.*, March 1, p. 717.)

APOTHESINE.—Diethyl-amino-propyl cinnamatehydrochloride. Apophesine is a local anesthetic of the procaine rather than the cocaine type, that is, it belongs to that type which, while effective for injection anesthesia (especially when combined with epinephrine), is relatively inefficient when applied to mucous membranes. It is rather slower in action than procaine. Its absolute toxicity is less than that of cocaine, but about twice that of procaine. It is employed for infiltration injection, nerve blocking, intraspinal injection, pressure anesthesia, oral administration as a palliative measure, for post operative and persistent vomiting and pain of gastric ulcer. As a local anesthetic, apophesine is used in 0.5 to 2 per cent solution, generally with epinephrine and sterile water or physiological solution of sodium chloride. Apophesine is marketed in substance and also in the following forms: apophesine solution 1.5 per cent; apophesine hypodermic tablets 0.08 Gm.; apophesine and adrenalin hypodermic tablets (apophesine 0.04 Gm.; adrenalin 0.00004 Gm.); apophesine and adrenalin hypodermic tablets (apophesine 0.3 Gm.; adrenalin 0.0003 Gm.); apophesine and adrenalin hypodermic tablets cylindrical (apophesine 0.01 Gm.; adrenalin 0.000025 Gm.); apophesine ointment (apophesine 10 per cent; adrenalin 1:60,000; and menthol 0.5 per cent). Parke, Davis and Co., Detroit. (*Jour. A. M. A.*, March 8, 1924, p. 793.)

BUTESIN PICRATE.—Trinormalbutylparaminobenzoatedinitrophenol. A compound consisting of one molecule of trinitrophenol (picric acid) and three molecules of normal butyl ester of 4-aminobenzoic acid. Butesin picrate combines the anesthetic action of butesin with the antiseptic properties of trinitrophenol (picric acid). An aqueous solution of 1:1,400 produces immediate and complete anesthesia of the eye which lasts from ten to twenty minutes. Butesin picrate is used in the treatment of burns, ul-

cers and other denuded, painful lesions of the skin. For use, a one per cent butesin ointment is supplied by the manufacturer. The Abbott Laboratories, Chicago.

NORMAL HORSE SERUM.—A normal horse serum (see New and Nonofficial Remedies, 1923, p. 281) marketed in packages of one syringe containing 10 Cc.; also in packages of one syringe containing 20 Cc. United States Standard Products Co., Woodworth, Wis. (*Jour. A. M. A.*, March 15, 1924, p. 876).

DIBROMIN.—**DIBROMOBARBITURIC ACID.**—Dibromin is an antiseptic and germicide proposed for use in solution as an irrigating fluid and wet dressings, for flushing cavities, irrigating infected wounds and for saturating gauze packings. Dibromin is claimed to be practically free from irritating or toxic properties in the concentrations required for therapeutic use. Solutions of 1:10,000 (6 grains to one gallon) or stronger are used. Dibromin is marketed in six grain capsules. Parke, Davis and Co., Detroit.

ACNE VACCINE.—An acne vaccine (see New and Nonofficial Remedies, 1923, p. 302) marketed in packages of one 10 Cc. vials, each Cc. containing 40 million killed bacteria. United States Standard Products Co., Woodworth, Wis.

GNOCOCCUS VACCINE.—A gonococcus vaccine (see New and Nonofficial Remedies, 1923, p. 304) marketed in packages of one 10 Cc. vial, each Cc. containing 1,000 million killed gonococci. United States Standard Products Co., Woodworth, Wis.

PERTUSSIS (WHOOPING COUGH) VACCINE.—A pertussis bacillus vaccine (see New and Nonofficial Remedies, 1923, p. 306) marketed in packages of one 10 Cc. vial, each Cc. containing 3,000 million killed pertussis bacilli. United States Standard Products Co., Woodworth, Wis.

TYPHOID PARATYPHOID VACCINE (combined).—A typhoid vaccine (see New and Nonofficial Remedies, 1923, p. 314) marketed in packages of three 1 Cc. vials, the first dose containing 500 million killed typhoid bacteria, 375 million killed paratyphoid A and 375 million killed paratyphoid B bacteria, the second and third doses each containing 1,000 million killed typhoid bacteria, 750 million killed paratyphoid A bacteria and 750 million killed paratyphoid B bacteria. United States Standard Products Co., Woodworth, Wis. (*Jour. A. M. A.*, March 22, 1924, p. 967.)

STAPHYLOCOCCUS COMBINED VACCINE.—A staphylococcus vaccine (see New and Nonofficial Remedies, 1923, p. 310) marketed in packages of one 10 Cc. vial, each Cc. containing 1,000 million killed staphylococcus albus and 1,000 million killed staphylococcus aureus. United States Standard Products Co., Woodworth, Wis.

THE OLD HEAD INJURY CASE.—One hundred old head injury cases were studied by Joseph C. Michael, Minneapolis (*Journal A. M. A.*, April 14, 1923), with special reference to the degree of the vocational handicap, the neurologic complications and the probable factors in their production. His conclusions are: The prognosis for life of the patients overcoming the immediate complications is very favorable, excepting those who incurred penetrating brain injury. Freedom from invalidity is uncommon. Careful, early treatment will do much to prevent chronic invalidity. Increased intracranial pressure and signs of local irritation are the only indications for surgery on the head in the acute as well as in the chronic case.

Handling of the patients with intractable head injury syndrome constitutes a problem of great magnitude.

HOLOCAINE OINTMENT.—M. E. S. Co.—Composed of holocaine (see New and Nonofficial Remedies, 1924, p. 35) 1 per cent., water 1 per cent., wool fat and petrolatum 98 per cent. Put up in collapsible tubes for application to the eye. Manhattan Eye Salve Co., Louisville, Ky. (*Jour. A. M. A.*, Aug. 2, 1924, p. 357.)

SILVER-SALVARSAN, 0.6 Gm. AMPULES.—Each ampule contains silver-salvarsan (see New and Nonofficial Remedies, 1924, p. 54) 0.6 Gm. H. A. Metz Laboratories, New York.

DIPHTHERIA TOXIN-ANTITOXIN MIXTURE 0.1 L.+.—A diphtheria toxin-antitoxin mixture (see New and Nonofficial Remedies, 1924, p. 299), each cc. representing 0.1, L+ dose, of diphtheria toxin, neutralized with the required amount of antitoxin. It is marketed in packages of three bulbs, each containing 1 cc.; also in vials containing 20 cc. Parke, Davis and Co., Detroit. (*Jour. A. M. A.*, August 16, 1924, p. 508.)

DIPHTHERIA ANTITOXIN, REFINED AND CONCENTRATED.—A refined and concentrated diphtheria antitoxin (see New and Nonofficial Remedies, 1923, p. 283) prepared according to a modification of Banzhaf's method, marketed in syringes containing 1,000, 3,000, 5,000 10,000 and 20,000 units, respectively. United States Standard Products Co., Woodworth, Wis.

DANGERS OF TAXIS IN STRANGULATED HERNIA.—Taxis is little used at the present time because of its dangers and the fact that there is a much lower mortality rate if operation is performed as soon as the diagnosis is made and without attempts at manual reduction. Contrary to the general opinion, if the hernia cannot be reduced in five minutes by moderate pressure, it is inadvisable to continue taxis longer. Taxis is aided in infants, children and adults by suspending them by their feet, head downward.

Taxis is contraindicated when the hernia has been down several hours; when the onset is acute and the symptoms severe; when previous attempts at taxis have failed; when the hernial coverings are edematous; when there are symptoms of prostration and shock, and when there are signs of ulceration and gangrene.

If taxis is apparently successful the patient is not out of danger for several days and should be watched carefully for symptoms of reduction "en masse," hemorrhage, and delayed perforation of the intestine. —LEIGH F. WATSON, *International Clinics*, 1924, vol. 2, s. 34, p. 217-219.

HERNIAL TUBERCULOSIS.—The diagnosis of hernial tuberculosis is seldom made except at operation unless lesions exist elsewhere, such as in the abdominal viscera, peritoneum, genital organs, spine, bones, joints, lungs, or meninges. The outlook is ordinarily grave because the patient often dies from the primary lesion. In children a congenital tuberculosis hydrocele is often mistaken for a simple hydrocele. If the tuberculous hernial contents are thoroughly exposed to the air, improvement generally follows and sometimes healing of the local condition. Peritoneal tuberculosis is nearly always present also and should be dealt with through a second incision. In addition to the operative treatment, the usual measures employed to combat tuberculosis are necessary. —LEIGH F. WATSON, *International Clinics*, 1923, vol. 1, s. 33, p. 230-235.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

Volume XXI

St. Louis, Mo., November, 1924.

NUMBER 11

E. J. GOODWIN, M. D., EDITOR
901 Missouri Theatre Building, St. Louis, Mo.

PUBLICATION } W. H. BREUER, M. D., Chairman
COMMITTEE } C. B. FRANCISCO, M. D.
 } M. A. BLISS, M. D.

ORIGINAL ARTICLES

THE INFLUENCE THAT THE ETIOLOGY OF THE PNEUMONIAS SHOULD HAVE UPON THEIR TREATMENT*

D. G. STINE, M.D.

COLUMBIA, MO.

THE MATERIAL.

The cases listed below were entered on Medical Service of the University Hospital between the years of 1917 and 1923. Most of these cases were entered by the resident physicians as pneumonia before coming to my notice. The statistics upon which this paper is based were compiled by Dr. Henry Winston Harper, Jr., of St. Louis, and Dr. Hugh Poteet Muir, resident physician at the University Hospital, Columbia, Mo. Only such cases were selected as showed the classical signs and symptoms of pneumonia.

1. Number of cases of mild influenza and gripe-like coryzal infections (not occurring during epidemics) resulting in lobar pneumonia, 19. Deaths, 0.

2. Number of cases of mild influenza and gripe-like coryzal infections (not occurring during epidemics) resulting in broncho-pneumonia, 9. Deaths, 2.

3. Number of cases of scarlet fever resulting in lobar pneumonia, 2. Deaths, 0.

4. Number of cases of measles resulting in bronchopneumonia, 12. Deaths, 1.

5. Number of cases of sterile infarct from mitral lesion of heart resulting in lobar pneumonia (upper or middle lobes right lung), 2. Deaths, 0.

6. Number of cases of septic embolus resulting in lobar pneumonia, 4. Deaths, 1.

7. Number of cases of exposure to cold resulting in lobar pneumonia, 1. Deaths, 0.

8. Number of cases of whooping cough resulting in lobar pneumonia, 2. Deaths, 0.

9. Number of cases of thoracic injuries from football resulting in lobar pneumonia, 3. Deaths, 0.

10. Number of cases of chronic inflamma-

tion of pulmonary tissue as result of gas poisoning resulting in lobar pneumonia, 2. Deaths, 0.

11. Number of cases of ether anesthesia resulting in lobar pneumonia, 1. Deaths, 0.

12. Number of cases of typhoid fever resulting in broncho-pneumonia (early), 3. Deaths, 1. (On 5th day of disease. Diagnosis confirmed by autopsy).

13. Number of cases of unknown causes resulting in lobar pneumonia, 12. Deaths, 0.

14. Number of cases of epidemic influenza resulting in bronchopneumonia, 568. Deaths, 13.

15. Number of cases of epidemic influenza resulting in lobar pneumonia, 78. Deaths, 1.

Reviewing the above statistics, which are made up of 126 cases of lobar pneumonia and 582 cases of bronchopneumonia, we find that, first, the lobar pneumonias follow minor pulmonary accidents (some so slight that in 12 cases no history of them was obtained) that are limited to one small portion of the lung and the mortality rate in lobar pneumonia is less than that of bronchopneumonia, being 1.6 per cent. Second, that broncho-pneumonia always has a definite history of a preceding sickness that could result in multiple areas of damaged lung. It often follows illnesses that depress the natural resisting powers of the body. The death rate in bronchopneumonia is 3 per cent higher.

THE ARGUMENT.

An elderly man becomes confined to his bed on account of ill health. Blood stagnates in the vertebral border of his lungs, serum transudes into the air passages, this serum becomes infected with the organisms borne to it by the tidal air of his respiratory efforts and the old old gentleman has pneumonia.

A patient, suffering from hemorrhagic jaundice has bleeding into the parenchyma of the lungs. This blood clot becomes infected with the organisms borne to it by the tidal air, an inflammatory reaction takes place in the tissue about the infected clot, and the patient has pneumonia.

A patient has influenza, the toxin of which

*Read before the Sixty-Seventh Annual Meeting, Missouri State Medical Association, Springfield, May 6, 7, 8, 1924.

causes a necrosis of the walls of the capillaries and frank bleeding in any or all the vascular structures of the body, especially in the lung. This blood becomes infected with such organisms that come in contact with it, producing a pneumonia, the extent of which corresponds to the amount of the vascular damage and bleeding into lung tissue.

This same description with slight modification will answer for the more virulent types of the exanthemata.

A soldier inhales an irritating war gas; the continuity of tissue in the pulmonary apparatus is broken; serum transudes or there is frank bleeding; this serum or blood clot may become infected and the patient has pneumonia.

Besides the above mentioned causes of extensive lung damage leading to extensive pneumonia, there are a number of minor pulmonary accidents that are prone to result in less extensive pneumonic consolidations.

A patient with a mitral lesion of his heart develops an infarction into a lung that may (although more often it does not) end in a pulmonic consolidation of that portion of the lung. A patient suffers a crushing injury to his thorax, a sharp end of a broken rib penetrates his lung and bleeding takes place around the site of the pulmonary injury. This may result in a consolidation about the wound. A host of minor and sometimes unnoticed accidents may happen to injure the pulmonary parenchyma resulting in bleeding, the transudation of serum; opening a portal for infection and its resulting inflammatory changes. The observation of the various forms of pneumonitis has led me to believe that the so-called pneumonias are of accidental origin and are always due to cell damage within the pulmonary structure, and that, on account of the peculiarly vascular character of this tissue, results in frank bleeding or the escape of serum into the air cavities.

This may be the result of the necrobiosis of the cells from over stimulation due to toxins, either bacterial or chemical; to sudden lowering of the body temperature; to hypostatic conditions of the circulation through the lungs; to traumatic brakes in the continuity of pulmonary structure; to the lodgement of a septic embolus in an arterial vessel of the lung with resulting inflammatory changes; to the lodgement of a sterile embolus in some branch of the pulmonary artery with a resulting infarction; to the presence of suppurative processes in the adjoining air passages causing a break in the continuity of pulmonary tissue.

This sudden damage in the vascular tissue of the parenchyma of the lungs means an escape of blood, or serum, into the alveoli or the ramifications of the bronchial tree, so that we have

the picture of blood clot or serum exposed to the tidal air of the pulmonary mechanism. This air is not sterile but carries in suspension such bacteria that are normal inhabitants of the upper respiratory tract, or bacteria that may be responsible for pathological conditions in the upper respiratory tract or within the bronchial tree.

The natural consequence of this set of circumstances is the infection of the blood clot (or serum) present in the air chambers of the lungs. The local and systemic results of this infection depends upon the character of infecting bacteria and their virulency and upon the resistance of the body tissues to the particular infecting agent or agents.

Of the factors mentioned above as productive of pulmonary bleeding, the necrosis of blood vessel walls in the lungs as a result of bacterial toxin has, since the great influenza epidemic, become one of the most common causes of pneumonia.

Those of you who have watched autopsies upon the bodies of individuals dying from influenza remember that in general they were of two types: First, those individuals dying early in the disease (third to fifth day), the death being due to the overwhelming of the body by the influenza toxin. Here you saw the lungs full of blood clot and serum, their exteriors presenting a mottled appearance due to alternating areas of hemorrhage and of emphysematous lung. In these same bodies there was found also a hemorrhagic gastro-enteritis, a hemorrhagic nephritis, a cloudy swelling of the liver, hemorrhages into the skeletal muscles, areas of hemorrhages under the skin and evidence of hemorrhage from the nose and other mucous passages.

Second, those dying after the first week of illness, death being due to the extensive pneumonia which resulted from the infection of the bleeding lung. Here the areas of hemorrhage in the lung were replaced by pneumonic consolidations and the evidence of recent bleeding was absent although old hemorrhagic areas were seen.

I have cited the foregoing illustrations to amplify my argument that the etiology of pneumonia is, essentially, a matter primarily of those accidents, toxic or traumatic, that may result in the damage of that very delicate and highly vascular structure, the lung.

These accidents may be very serious affairs in themselves and lead to extensive lung damage and open the way for extensive and multiple areas of pneumonic consolidations, or may be in themselves of minor importance and result in the opening of a single portal of infection.

THE RESULT.

Presuming that this argument is correct, we will find bacterial invaders of these open wounds in the pulmonary tissues among those living in, or gaining access to, the upper respiratory passages. The bacteria most likely to come in contact with these areas of bleeding are the normal inhabitants of the upper respiratory tract. These find in the blood serum and clot, kept warm and moist, an ideal culture medium, the only deleterious factor to their growth being the immune substances of the body tissues. Luckily, this is usually an insurmountable obstacle so the outcome can well be represented by the old equation:

$$\frac{\text{bacteria} \times \text{virulency}}{\text{resistance}}$$

The bacterial examination of the sputum of patients ill with pneumonia shows the predominating organisms to be pneumococci, other unidentified diplococci and diplo-streptococci, the various types of streptococci, Friedlander's bacillus, micrococcus catarrhalis, staphylococci, etc. These organisms, when normal inhabitants of the nose and throat, are of slight virulency and when an individual of normal resistance is infected do but slight damage (traumatic injuries, sterile infarcts), but when the resistance of the individual is lowered by sudden exposure of the body tissues to bacterial toxins (influenza, measles, hemorrhagic jaundice), or by long periods of disease processes (hypostatic pneumonia) they may rapidly develop an increasing virulency.

Organisms that have had their virulency increased in the body of one host, whose resistance is low, may gain entrance into the nasopharynx of another host and be carried by the tidal air into contact with a pulmonary wound where in spite of normal resistance they can still be virulent invaders (virulent ward epidemics of pneumonia among influenza patients producing virulent pneumonia even in mild cases of influenza).

Again, an organism with its virulency so increased may no longer act as a normal resident of the upper respiratory tract of a healthy host but invades the mucous membranes and produces a generalized toxemia and itself causes both the provocative lesion and the resulting consolidation (epidemics of pneumococcic infections surgical ward, prisons, mines).

Again, a patient that has some acute or chronic infection of the upper respiratory tract may suffer a pulmonary damage and thus have at hand bacterial invaders of unusual virulency.

The pathological anatomy of the reaction to these infections, in pulmonic tissue, is dependent upon the extent of the damage done by the provocative lesions and to the amount of paralysis of the body's defenses, leucocytic and others, resulting from the initial toxemia. It is customary to divide pneumonias anatomically into lobar pneumonia and bronchlobular pneumonia. *Lobar pneumonia*, I believe, is the result of nature's ability to limit the process to a lobe. The consolidation starts at the point of damage and quickly developing immunity fixes its limits to a portion of the lobe or to one or more lobes. There is not necessarily a single portal of entry; we may have two or more widely separated points of infection resulting in consolidation, as in double pneumonia.

Before the influenza epidemics, the majority of secondary bacterial invaders were pneumococci. Since the influenza epidemics the majority of our lobar pneumonias have been due to streptococci. This, I believe, is due to a change in the oro-nasal flora of the average individual.

Bronchopneumonia, I believe, is due to multiple foci of infection within the lung as a result of multiple points of damage. Here attempts at fixation, due to immunity, may limit the consolidations to the immediate neighborhood of the infected clots, or, if the immunity is low or the virulence of the infecting organism is high, we may have an extensive spread of the consolidation process throughout the parenchyma of the lungs.

THE MECHANISM OF DEATH IN PNEUMONIA.

Death can occur during any of the stages of the diseases resulting in pneumonia.

1. During the initial toxemia where there are only provocative lesions in the lung.

Death in this stage is due to the overwhelming toxemia resulting in toxic shock. The patient, usually, first shows evidences of toxic stimulation, the cheeks are flushed, the eyes bright, there is a fine tremor of the muscles of the lips, face, hands and legs. If spoken to, the patient is at once alert and usually attempts to assume a sitting position and when attempting a reply his tremor markedly increases. His pulse rate is increased and is of full volume and the blood pressure reading is above normal. Too large a dose of toxin results in over-stimulation and a state of toxic shock. The results produced by the products of proteid digestion and bacterial activity, spoken of as toxemia, suggest that there is a fundamental similarity of origin underlying the simulation of symptoms between the bacterial toxemias and other shock like conditions. That is, following the period of great stimulation there

is a profound fall in blood pressure accompanied by a striking concentration of the blood due not merely to the loss of water and other diffusible constituents, as in collapse occurring in cholera and bacillary dysentery where water is lost by excretion, but is due to the passage into the tissues, lymph spaces, or into the alveoli of the lungs of the whole plasma. The large volume of the blood plasma lost results in a slowing of the blood stream, in increased viscosity of the blood and in faulty oxygenation of the tissues. Poor oxygenation of the tissue results in a condition of acidosis. The acidosis increases the permeability of the capillary walls. The volume of the blood is further decreased. The capillaries that in health have the power of contracting, lose their tone so that the veins fill poorly and the cardiac output falls to a low level. Thus a vicious circle is established resulting in a maximum loss of plasma and a minimum retention of whole blood within the vessel.

The picture presented by the patient has now changed. Gone are the clinical evidences of toxic stimulation. He is pale and apathetic. The restlessness and tremor are displaced by a complete relaxation of his musculature; the skin is often cool although the temperature within the orifices of the body is high; the blood pressure is very low and the pulse of poor volume and rapid; cyanosis is present and often slight jaundice. In the more virulent toxemias there is added to this picture of shock the results of the actual damage produced by the toxin on the tissues of the body. There is a destruction of the capillary walls allowing for the free escape of whole blood in addition to the transudation of serum mentioned above, and in influenza this is especially marked as a result of the damage to the protective tissues of the respiratory tract. Other effects of toxemia, the splenitis as a part of a general lymphoiditis, a cloudy swelling of the liver and the kidney, hemorrhage from the kidney from destruction of the capillaries, and the effect of the toxin upon the myocardium, all undoubtedly helped in causing an early death that was due principally to the vicious circle mentioned above.

2. During the period of active consolidation, that is, where the blood clot has been invaded by bacteria and an inflammatory reaction in the lung tissue has resulted in what is called red hepatization.

Pulmonary edema, in my experience, is the terminal event at this stage. Death seems to be the direct consequence of the rapid filling up of the lungs with edematous fluid. Of the mode of production of the terrifying complication I am somewhat in doubt. I am convinced that it is not often due to cardiac fail-

ure. As a matter of fact, the heart usually maintains its symmetry of outline and continues to beat for some minutes after respiration has ceased. I have often thought that this edema is due to a sudden decrease in the volume of blood in the circulation with a resulting relaxation of the vessel walls in the lungs and an increase in their permeability.

Pulmonary edema of cardiac origin does occasionally occur, in which event the outline of the heart is carried abnormally far to the right and there are other evidences of cardiac failure.

3. A progressive consolidation with actual obliteration of more lung tissue than the organism can spare and continue to live.

This is seen in lobar pneumonia involving many lobes and in a progressive bronchopneumonia as in measles and in influenza.

4. Death during gray hepatization and resolution.

This is rarely a true pneumonia death but is due to the results of toxemia elsewhere in the body. The picture of death is that of exhaustion and of the inability of the various structures of the body to function. This death usually occurs in the second or third week of pneumonia. It is in this class that we most often find our deaths that are due to myocarditis, nephritis, gastro-enteritis that has been associated with pneumonia.

Of the many complications of pneumonia producing death I will not talk.

TREATMENT.

In intoxications of the body that are prone to result in lung damage the degree of toxemia should guide our treatment in an attempt to anticipate pneumonia. After the secondary infection has taken place we then have to combat an added toxemia and a new infection. Our immediate treatment should consist in attempts to decrease the toxemia associated with the provocative sickness and make the body tissues as unfavorable a host as possible for the growth of the bacteria. Given an individual that is seen with high fever, with large areas of absent breathing and fine rales over the lungs especially in the back, with hemorrhagic sputum, blood in the urine, black stools, who becomes jaundiced and delirious on the second or third day, treatment is rarely of avail because he has not enough normal viscera, cranial, thoracic, or abdominal, to carry on the functions of life. These patients rarely live longer than five days and are seen with the onset of virulent influenza, typhoid fever, measles, smallpox and scarlet fever.

Rest. This is the greatest of all the therapeutic procedures and means absolute rest in bed. It is strange what a diversity of under-

standing there is regarding absolute rest in the minds of physicians and nurses as well as lay people. I have had patients with extensive provocative lesions in the lungs for whom I have ordered absolute rest in an attempt to protect them as much as possible and keep their resistance up to its highest point, and found that they had been allowed to sit up in bed to eat, to sit up in bed and comb their hair and brush their own teeth and to get out to the edge of the bed to use a commode. Of course, this is not absolute rest and adds materially to risks of the patient. The cases that have to be particularly watched are the ones where minor damage is being done to the lungs or where there is a small consolidation giving few symptoms. I have often seen unnecessary exertion change a mild condition into an almost hopeless one.

Hydrotherapy. I have employed this procedure but rarely. An ice bag to the head in a high fever is about all that I order for the average case. The only condition in which I believe hydrotherapeutic measures are attended with beneficial results is in lobar pneumonia due to pneumococci of mild virulence, where the toxemia can be lessened by cold sponging of the body.

Diet. I have nothing to add to the usual procedures in regard to diet.

Venesection. This is an excellent remedy to diminish toxemia if done early and repeatedly, but should be done during the stage of stimulation and avoided during the period of depression due to over-stimulation that I have described as toxic shock. I have just described to you what takes place during this period of shock; that is, the fall of blood pressure accompanied by the marked concentration of the blood resulting in acidosis and a diminished cardiac output. As you can see, venesection here only aggravates the forming of the vicious circle which results in a pulmonary edema. I want especially to call attention to the dangers of doing a venesection in the face of pulmonary edema due to toxic shock and acidosis, because in this way we deprive our patient of what slight chance he has of recovery. The confusing thing is that, in pulmonary edema due to cardiac failure, we get striking improvement after venesection. In my own practice I do not allow myself to do a venesection in the beginning of pulmonary edema unless I can percuss out a definite dilatation of the heart to the right of the sternum and have evidences such as rapidity and irregularity of the pulse, to aid me in determining that there is a beginning cardiac breakdown.

Blood Transfusion. During the epidemic of influenza I did a large number of blood transfusions by the citrated method in all

stages of pneumonia. I was disappointed in it as an aid to recovery, except in those cases in the second or third week of sickness that were showing evidences of exhaustion. Here some striking results were noticed and it is in this stage that I would recommend it. As a means of transferring immunity, even when blood is used in large amounts and is given repeatedly, I think it is apt to prove a failure.

Digitalis. It is with great reluctance that I offer a criticism of so popular a remedy in pneumonia as digitalis. I feel that I must say that one should not attempt to use digitalis in the presence of an acute bacterial toxemia without first being perfectly familiar with just what is happening to the heart muscle. To me one of the most enlightening researches into the action of digitalis on the heart muscle was very recently done by William Dean Collier. This has been approached from the cytological changes resulting in heart muscle but is of great clinical importance. Collier used bacterial toxins as well as digitalis, cocaine, caffeine and other drugs, as cardiac stimuli. His conclusions were that there was a non-specificity of stimuli as far as their effects upon the heart cell were concerned and that all these stimuli reached upon the heart in just two ways: first, by excitation; second, by over-excitation and depression.

Now, the cardiac condition that the clinician sees in the severe toxic conditions that precede and accompany pneumonia is the dilatation resulting from depression superimposed upon excitation of heart muscles. Keeping this in view one can see that the use of digitalis with a heart that has been subjected to virulent toxemia for some time should be carried out with great caution.

Doctor Walter Hamberger, of Chicago, has sounded a note of warning concerning the use of digitalis in large doses in toxic conditions, especially in pneumonia. The results that Collier reached on the basis of cytomorphosis Hamberger has noted from clinical observation aided by the electrocardiograph. He calls particular attention to the production of heart block as one of the most frequent results of a mild toxic amount of digitalis, that is, so-called complete digitalization.

I would not advocate discarding digitalis. I consider it a great aid, given early in small doses before the heart is crippled. I believe Collier has shown that up to a certain point digitalis increases the metabolism of the cardiac cell and under its influence the cell is working at its greatest efficiency. But one should guard against overstimulation from digitalis plus over-stimulation from a toxin and the death of the cell.

Experience leads me to make an exception

from the deduction arrived at above, and that is in the use of digitalis in pneumonia in the aged. They seem to have an increased tolerance as far as heart muscle is concerned to digitalis and that its use in them is attended by pleasing results. This is probably because the pneumonias in the aged are usually caused by organisms of slight virulency.

The use of alkalis. I tried extensively the use of alkaline solution by mouth, intravenously, and by its introduction with glucose into both upper and lower ends of the intestinal tract. The attempts to neutralize acidosis with alkalis had been most disappointing and in view of the recent doubt that has been voiced that this is not a true acidosis but might be an alkalinosis, has led me to abandon its use.

Alcohol. I believe firmly in its use in pneumonia. It is extremely valuable as a food that can be utilized when the patient cannot handle many other kinds of foods. Its narcotic effect is also useful (I understand that alcohol is now considered a narcotic and not a stimulant.) Like digitalis its greatest use is in the aged.

Camphor. In treatment of the provocative toxemias producing pneumonia, as well as those accompanying the onset of pneumonia, the problem is to effect the rapid elimination of the toxin and prevent the vasomotor collapse which is dependent upon the loss of capillary tone and structure and the increased viscosity of the blood, which results in the slowing of circulation and poor oxygenation. The result of all this, as we have said, is acidosis produced by the poor oxygenation and wasting of tissue with the final picture of pulmonary edema. The one remedy that in my experience meets the emergency of this early intoxication is camphor.

The pharmacology of camphor is found almost altogether in German literature and is the result of German investigation. Luchsinger has described the increased production of sweat due to camphor, the drug acting on the sweat centers as well as in the periphery. The output of urine is also markedly increased.

The work of Alexander and also of Lewin shows that as a means of correcting vasomotor collapse it is the drug par excellence. My own experience leads me to believe that this is its most striking quality. Alexander's experimental results show that stimulation of vasomotor mechanism is marked only when there is some pathological depression of the circulation.

Passler has also shown that there is a marked improvement in the vasomotor tone in infected animals that is not noticed in normal animals.

In a long series of animal experimentation

Seibert observed an antiseptic action of camphor in the body of rabbits upon certain forms of cocci including the pneumococcus.

MY OWN OBSERVATIONS ON CAMPHOR.

1. That it is not a heart stimulant, even in doses of 150 gr. These large doses do not change the rate of amplitude of the pulse beat or tone of the heart sound.

2. That in doses of 36 gr. and over it is a marked stimulant to a depressed vasomotor apparatus as checked by blood pressure readings and clinical improvement.

3. That it increases the output of urine and stimulates markedly sweat production.

4. That the human body is tolerant of enormous doses of camphor. Seventy-six patients entering the hospital with evidence of toxic shock received an initial dose of 144 gr. of camphor without any deleterious results. An example of the tolerance of camphor is that of a frail girl with an extensive post-influenzal pneumonia of both lungs who received 756 gr. of camphor a week for two weeks with markedly beneficial results. The average patient on my hospital service receives a dosage of 108 gr. of camphor a day during the pneumonia until the temperature is normal. The results I have noted have been the prompt disappearance of the evidence of toxemia, i. e., dyspnea, restlessness, delirium and the marked comfort of the patient.

I have always thought that the introduction into the body tissues of more than 100 gr. a day of a volatile antiseptic substance that is harmless to body tissue could not help but make the body tissue, and especially the body fluids, a less favorable host to bacteria.

Of course, the use of camphor in well established pneumonia, where the toxic damage is already done and consolidation is well advanced, will be disappointing. I wish to make a plea for the very early use of large doses of camphor in those toxemias that we recognize as resulting in provocative pulmonary lesions and also during the early hours of pneumonia and that the drug be pushed until results are obtained, just as quinine is used in malaria. The results of this treatment have kept our mortality in post-influenzal pneumonias to 3.4 per cent of more than 500 cases and have kept our mortality of lobar pneumonias well below 2 per cent.

CONCLUSIONS.

When I was a student I well remember the utter scorn with which one of my beloved instructors reviewed the term, "threatened with pneumonia" as applied to a patient. I believe, however, in spite of my medical upbringing that one can be threatened with pneumonia; that any one of the conditions that I have de-

scribed which result in what I have called provocative pulmonary lesions hold a direct menace of pneumonia for the patient and that they constitute the real etiology of pneumonia.

I also believe that we should bear in mind this etiology in our treatment of pneumonia and that all procedures in the treatment of pneumonia should be carried out with a thorough biological and histological knowledge of the changes that are taking place within the body.

DISCUSSION.

DR. JOHN F. CHANDLER, Oregon: Doctor Stine mentions the use of camphor. I would like to ask him his method of administration of camphor.

DR. WALTER BAUMGARTEN, St. Louis: Doctor Stine has had an unusual material for the study of the pneumonias and has made most interesting use of it. Remembering especially that much of it covers the period beginning with the concentration of men at the various army training camps during which appeared what we should have previously termed anomalous types of pneumonia his mortality rate has been strikingly low. For that reason his methods of treatment and the views on the basis for his method, arrest attention.

The key to the situation as he sees it lies in the importance of the cellular injury provoked by preceding conditions, intoxications or trauma, with consequent loss of resistance on the part of the host, and the subsequent destruction of vasomotor tone and all that follows in its wake. Therefore the minimizing of toxemia arising from predisposing diseases or accidents is the first step in a broad view of the treatment of pneumonias. The maintenance of resistance during such illness is paramount. This constitutes the stage of "threatened" pneumonia, which, however unpopular the term and however much abused in application, represents a very real condition that should be interpreted as the stage of lowered resistance.

The factor of *rest* in any infection is little appreciated and must be insisted upon in detail by the physician, whose duty it is to see that it is properly understood and adhered to. It is the first essential in preserving what resistance the patient may have to depend upon and none can afford to have it dissipated.

If there is to be hope of success, measures for relief or for protection must be inaugurated early in the disease and with a clear view as to the possibility of response on the part of the normal physiological processes. Eleventh hour measures have scant likelihood of success because the physiological mechanism is wanting. This is doubly true of venesection and of digitalis therapy. Venesection fell into disrepute because physicians as a whole forgot the dictum that it was to be used in the "sthenic" stage of pneumonia, as it was called. It was well recognized by the men of two or three generations ago that relaxed, apathetic patients were unsuitable for such procedure. The difficult task of recognizing a true cardiac decompensation in pneumonia, with a possible associated pulmonary edema, must rest on the judgment of the physician.

In using digitalis in pneumonia several factors should be taken into consideration. Digitalisation, as it is called, can be carried out in a short time. If the amount of digitalis for this purpose be taken as the quantity required to stop an auricular fibrillation, say 10 cc. of the tincture, even if this is given in divided doses the period of time necessary will not exceed 48 hours. The digitalis effect persists

for five or six days, so that the period during which it will be useful in pneumonia is fairly covered. To give its best effect therefore it should be given at the outset of the illness and not when the period for so-called stimulation arrives.

A most interesting phase of Doctor Stine's therapeutics in pneumonia lies in his use of camphor. In this he has very boldly employed large doses and with the best results. The recognition of its use as a vasomotor stimulant in pathological processes as distinct from its effect in the normal organism is most important.

Finally, not the least interesting feature of this paper is to be found in the insistence on an understanding of the pathological physiology of the pneumonic process and the omission of any reference to the various biological products which have in recent years been introduced, and with few exceptions have led to much disappointment.

DR. PARK J. WHITE, St. Louis: The application of Doctor Stine's remarks to the pneumonias of infancy and early childhood is very definite. Any child or infant suffering from whooping cough, measles, scarlet fever, etc., is "threatened" with pneumonia. Once a child develops pneumonia it becomes, as Doctor Stine has intimated for adults, a systemic disease. Emphasis on that point is decidedly in order. A child with pneumonia who also has dysentery or severe diarrhea has a very grave prognosis largely because of the drying of the tissues which Doctor Stine has mentioned. Consequently, it has occurred to us to give such children glucose intravenously, or saline solution intraperitoneally, in order to increase the volume of circulation, rather than to employ venesection. However, the success of this treatment is still questionable. In certain forms of pneumonia in which the circulation is shown to be poor, it is decidedly worth trying.

As to digitalis in the pneumonias of infants and children, the work of Hugh McCullough in post-diphtheritic myocarditis is worthy of comment. He has found that administration of digitalis in this condition only makes matters very much worse. It is altogether conceivable that the same effect may be present in influenza and other "provocative" diseases.

With regard to camphor, we usually see camphor hypodermics given when the child is in extremis. Possibly it would be of benefit if used early. I have had no experience with the early routine use of camphor.

DR. STINE (closing): Answering Doctor Chandler's question in regard to camphor, it must be given dissolved in olive oil, injected into the muscles of the buttocks and giving a 12 per cent. solution of camphor dissolved in oil is rather a disagreeable treatment. I think we can give it with the minimum amount of pain and it does comfort the patient. We have had patients who could time the disappearance of their feeling of comfort following an injection and despite the discomfort of the injection would in six to ten hours ask for readministration; even the most sensitive patients will oftentimes tell you that their feeling of relief and comfort has passed, the aching in the back of the head and the feeling of air hunger returned and insist upon another dose of camphor and oil.

Doctor White has reaffirmed what I had already said about bacterial toxins plus digitalis. I think that is a very important thing. I am convinced after the work of Dean Collier that there is a non-specific action of toxins on the heart muscles, whether bacterial toxins or drug toxins. With small doses there is stimulation and with larger doses overstimulation and depression. So you must be extremely careful if you have stimulation from bac-

terial toxin not to add to that the stimulation of digitalis thus getting a profound over-stimulation and depression.

Camphor and oil used in the pneumonias of children has been a thing of the greatest comfort. You meet with a very prompt response in children. But if you administer camphor and oil give large doses—ten to thirty grains, in infants and young children, then you will have rapid response. Give it freely—give it just as soon as you suspect pneumonia. Do not wait until you are sure of the chest findings, but when you have a child with a provocative disease, if there is indication of toxemia, if the temperature goes up, use camphor. The symptoms of pneumonia will appear, but it will be a short pneumonia.

THE TREATMENT OF CARDIO-VASCULAR SYPHILIS*

PAUL F. STOOKEY, M.D.

KANSAS CITY, MO.

As a result of the rapid advance of our knowledge concerning the association of disease of the heart and great vessels with syphilis, the treatment of this manifestation of syphilis has assumed immense clinical importance. The progressive tendency of untreated cardiovascular syphilis along with its clinical frequency, makes this subject one of vital importance to all practitioners of medicine.

In the treatment of cardiovascular manifestations of syphilis one is impressed by the high percentage of individuals with typical clinical findings of cardiovascular syphilis along with a positive serology, who deny all knowledge of an antecedent infection. Most of these cardiac cases have never received antisyphilitic treatment.

The question of the treatment of cardiovascular syphilis divides itself sharply into the symptomatic treatment of the clinical manifestations of cardiovascular disease present in the individual case and the specific therapy of the underlying syphilis. Obviously when the case in question presents no gross evidence of circulatory embarrassment, even in the presence of marked cardiac hypertrophy, and clinical evidence of an incompetent aortic ring, no treatment is indicated other than the therapy of the etiological factor, in short, the treatment of syphilis. We shall limit our observations to specific medication in cardiovascular disease of syphilitic etiology.

Unfortunately the treatment of syphilis is not a mathematical question. The physician accepts mercury and neosalvarsan as a specific for syphilitic infection. However, the response to treatment in each individual case is markedly influenced by the relative immunity of the infected individual to syphilis, the duration of the syphilitic infection, age of the infected in-

dividual and the amount of damage already sustained by the cardiovascular system prior to the institution of the specific medication. All these are contributing factors that profoundly influence the end result of treatment. It is obvious, in a case that responds kindly to treatment, that specific treatment properly administered cannot restore the functioning ability of the tissues already damaged or destroyed by the syphilitic infection. By treatment then we only attempt to arrest the progressive nature of this degenerative process and in cases that respond favorably to treatment the end result is an individual whose cardiac level is markedly reduced and the progressive nature of the infection arrested.

From a clinical standpoint the result of the involvement of the heart and great vessels by syphilitic infection is placed in three clinical groups, namely, aortitis, with or without an incompetent aortic ring, aneurysm and specific myocarditis. The post mortem study of numerous investigators has established beyond question that, from the pathologist's standpoint, all three of these clinical manifestations are present in every case of cardiovascular syphilis, the clinical diagnosis being used to designate that part of the individual's circulatory system which presents the most marked clinical and laboratory evidence of impairment of function. It is a pathological fact that aneurysm is but the maximum degree of development of a pre-existing syphilitic aortitis, which in its beginning disintegrated the elastic tissue in the middle coat of the aorta.

Pain, anginal in character, is present in a large percentage of cardiovascular disease of syphilitic etiology. This pain is of considerable therapeutic importance inasmuch as the ability of treatment to influence this symptom is a comparatively accurate indicator of the subsequent behavior of the case in question under the influence of treatment. In my experience, cases that respond well to treatment show an early and complete relief from pain and the persistence of pain a considerable time subsequent to institution of treatment is strong presumptive evidence of a progressive nature of the degenerative process.

It is in the group of early cases clinically diagnosed as aortitis that the most brilliant results of treatment are experienced. In short, if a diagnosis is established before objective signs other than some slight anomaly of the aortic sound, has developed, the response to treatment is usually brilliant. Subjective symptoms completely disappear and the infected individual's cardiac reserve is adequate to meet the demands of an active life.

In the presence of aneurysm the prognosis is bad. However, the study of MacLachlan¹

*Read before the Sixty-Seventh Annual Meeting, Missouri State Medical Association, Springfield, May 6, 7, 8, 1924.

would indicate that the judicious administration of specific medication has a marked inhibitory influence upon the progressive tendency of aneurysm. Certain it is that one frequently encounters aneurysm in an individual who experiences marked subjective improvement under treatment and who leads an active life in manual pursuits over a long period of time with no apparent enlargement of his aneurysm. Considering the pessimistic prognosis offered by most observers in this clinical manifestation of syphilis, I am convinced that specific treatment is indicated and if judiciously administered over a long period of time will in a considerable percentage of cases be productive of much good, both in subjective improvement and the inhibition of the progressive nature of the process.

It is in the myocardial group of cases that the therapist encounters disastrous results subsequent to the administration of neosalvarsan. Keidel's² observation that thirty per cent of his cases diagnosed as syphilitic myocarditis were injured as the result of specific treatment has been in accord with my own rather limited clinical experience. Twice have I encountered a severe augmentation of pre-existing symptoms subsequent to the administration of neosalvarsan. In both instances the pre-existing symptomatology was that of grave myocardial deterioration and the X-ray plate showed a practically normal aorta with a myocardial configuration. This is an important observation to be considered in the treatment of every case of cardiovascular syphilis. In short, when a myocardium shows marked evidence of involvement, neosalvarsan should be used with the extreme degree of caution.

Experience teaches certain therapeutic and prognostic indications which we shall briefly consider in a general way. The more advanced the underlying pathology the more doubtful the response to treatment and one should proceed with considerable caution in cases that show marked evidence of cardiac embarrassment. In elderly individuals who have suffered from syphilis for a long period of time, treatment should be administered with caution and neosalvarsan withheld. In cases that show marked embarrassment of the cardiac musculature with but little change of the aorta, neosalvarsan is not well tolerated. It may be said as a general statement, that in a young individual whose cardiovascular syphilis is of comparatively recent date, vigorous treatment is indicated. There is a current opinion that the administration of mercury for several weeks prior to the administration of neosalvarsan insures that the administered arsenical will be well tolerated. I have been impressed with the fact that cases who respond

kindly under mercury subsequently tolerate neosalvarsan well.

A number of cardiac syphilitics will come under observation with urinary findings suggestive of nephritis. Any abnormality in the urine will demand complete investigation as to urinary output, blood chemistry and the ability of the kidney to excrete a concentrated urine before treatment with mercury is instituted. It is remarkable that while the urine contains albumen and casts both clinical and laboratory evidence of true nephritis is usually wanting. It is the exception to find an associated nephritis and the urinary findings frequently clear up under treatment.

It is well to begin treatment with small doses of mercury in conjunction with potassium iodide and, keeping the patient under daily observation, slowly increasing the dosage of mercury until at the end of six weeks the patient is receiving an amount of mercury closely approaching the maximum of safety for the particular preparation used. If at the end of this period of time subjective improvement is noted, neosalvarsan may be used. The best results are obtained by beginning at .1 gm and if well tolerated in my judgment the maximum should never exceed .3 gm. If subsequent developments show marked improvement under neosalvarsan, it is best to increase the frequency of the dose rather than the amount administered.

The best indicator of the response to treatment is the subjective sensations of the infected individual. In cases that offer a comparatively good prognosis the relief from pain comes at an early day subsequent to a small amount of treatment and the clinician may accept this as an indication that the treatment will be subsequently well tolerated both with regard to mercury and neosalvarsan.

The disastrous result occasionally encountered in myocardial cases subsequent to the administration of neosalvarsan is, I believe, a true Herxheimer. Numerous clinicians offer explanations concerning the mode of the production of this reaction, the most common being that it is an irritative reaction due to insufficient dosage. Let us consider that Herxheimer's original observation concerning this reaction was made before neosalvarsan was known. In short, it can be produced by mercury and is, I believe, an inflammatory reaction of the cells surrounding the imbedded *treponemata pallida*, due to some biochemical reaction between the *treponemata* and the administered specific. Certain it is, that an individual who suffers from visceral syphilis in any organ and under medication presents this intensification of his symptoms subsequent to treatment, offers a poor prognosis both as to

the subsequent course of his syphilis and his subsequent reaction to treatment.

In conclusion I wish to state that in many cases of cardiovascular disease of syphilitic etiology, the administration of specific medication over a long period of time is frequently followed by brilliant therapeutic results. In contrast to this statement a certain percentage of cases most frequently falling in the myocardial clinical classification, who have suffered from syphilis for a considerable number of years, progress to a fatal termination even in the presence of appropriate specific medication. In the face of such clinical facts, the end result of therapy is at best uncertain. Cases who present the extreme degree of aortic pathology respond kindly to treatment and return to active life for years. Let us ever remember Keidel's and Kemp's² observations, that a group of individuals suffering from cardiovascular syphilis, who remained under treatment for ten years, lived approximately ten years; that a second group of individuals who suffered from cardiovascular syphilis received treatment three months and the average duration of life subsequent to the discontinuance of anti-syphilitic treatment, was under three years.

810 Rialto Building.

REFERENCES

1. MacLachlan, W. W. G.: *Am. J. M. Sc.*, 159:525 (April), 1920.
2. Keidel, Albert, and Kemp, J. E.: "The Treatment of Visceral Syphilis," *Journal A. M. A.*, page 299 (January, 1924).

DISCUSSION.

DOCTOR FRANK I. RIDGE, Kansas City: I have been especially interested for several years in the management and treatment of cardiovascular diseases due to luetic infection. So far, from my own observations, I cannot be quite as optimistic over the results obtained by treatment as is Doctor Stookey. However, I do believe with him in the conservative treatment of these conditions. From the standpoint of the clinician it is very difficult to come to any accurate conclusion as to the amount of damage done to the tissues which have been invaded. Untoward experiences have taught many of us that in some cases the arsenical preparations act rather disastrously. With this in view, it would be well to keep in mind that every case of lues constitutes a cardiovascular infection. As Doctor Stookey has mentioned, the reactions known to us as Herxheimer phenomena are not due alone to arsenicals for the same conditions may be obtained by the administration of mercury. Therefore, it would be the part of wisdom to treat sparingly all primary cases until a degree of tolerance for the medication has been established. Just what this Herxheimer phenomena is none of us can definitely say. However, it is the consensus of opinion that it is probably a local reaction at the points of infection. Not to be a pessimist, I can truthfully say that in many of these conditions we do see marked improvement and I think this can be attributed to several facts. First, to the drastic regime upon which all cardiopaths are placed; second, specific medication only to prevent further invasion and destruction of tissue.

DR. C. J. HUNT, Kansas City: I want to congratulate Doctor Stookey on his paper. I know that he has done a great deal of work in the treatment of syphilitic heart disease.

Syphilis is a disease that we have with us always. It works in a very insidious manner its ravages to perform. I believe syphilis attacks the cardiovascular system early. A syphilitic infection has certain characteristics, in that it selects certain organs to attack. Chief among these is the cardiovascular system, attacking the coronary artery, the aorta, the cerebral and spinal vessels. If it is allowed to go on it produces irreparable damage, therefore it should be treated heroically from its very incipency. I think syphilitics should be told of the early attack upon the cardiovascular system and they should be encouraged to remain under the watchful eye of a skilled physician so that untold damage may be avoided.

Doctor Stookey has brought out two or three very definite points. First, early diagnosis. How can we diagnose syphilis of the cardiovascular system in the early stages? That is a very difficult thing to do. When the perivascular spaces in these organs become involved they do not produce definite symptoms or physical findings. The specific history, pain, shortness of breath, all subjective symptoms, and the Wassermann, are the early criteria.

The treatment I believe should be almost exclusively confined to mercury and the iodides. Neosalvarsan and all arsenical preparations should be used with caution, particularly in advanced cases, and then in small doses.

Another point he emphasized was that the relief from symptoms such as pain and shortness of breath and the general improvement on treatment, indicate a good prognosis. Of course one is more optimistic when this occurs than when the symptoms do not respond to treatment.

PARENTERAL INFECTION AS A FACTOR IN THE PRODUCTION OF AUTONOMIC IMBALANCE IN INFANTS AND CHILDREN*

From the Department of Pediatrics, Washington University School of Medicine, and the St. Louis Children's Hospital.

PARK J. WHITE, M.D.

ST. LOUIS.

This paper has for its object the explanation of the gastro-intestinal and other apparently unrelated disturbances which may accompany and even mask certain foci of infection in infants and children. Though the literature contains surprisingly little on this subject, pediatricians are familiar with the fact that older children suffering from otitis or tonsillitis, for example, may localize their pain entirely in the abdomen. Similarly, infants with the same infections, unable to describe their symptoms, often present the picture typical of "cramps," (i. e., abdominal discomfort)—drawing up the legs, screaming, refusing food, vomiting, passing flatus and frequent watery, green, acid stools.

*Read at the Sixty-Seventh Annual Meeting of the Missouri State Medical Association, Springfield, May 7, 1924.

CRITIQUE OF THE LITERATURE.

I have not attempted a complete review of the literature. At present I know of but three articles dealing specifically with this subject. One by Helmholz¹, discusses the frequency of alimentary disturbances in infants with parenteral infections,—without offering an etiologic mechanism. Hutchison² emphasizes the fact that in children who localize their sensations badly, extra-abdominal causes of pain are especially likely to lead to error. His etiologic classification of abdominal pain in children is well worth summarizing:

ABDOMINAL PAIN.

A. EXTRA-ABDOMINAL CAUSES.

1. *Causes in the abdominal wall.*
 - a. Spinal caries (epigastric pain from nerve-root pressure).
 - b. Lateral curvature.
 - c. Rheumatism (fibrositis of abdominal muscles).
 - d. Herniæ.
 - e. Hip disease.
 - f. Herpes zoster.
2. *Thoracic causes.*
 - a. Pneumonia and pleuro-pulmonary disturbances.
 - b. Pericarditis.

B. INTRA-ABDOMINAL CAUSES.

1. *Sudden or catastrophic pain.*
 - a. Due to intestinal obstruction, appendicitis, Henoch's purpura, etc., not including acute indigestion.
2. *Chronic or recurrent pain.*
 - a. "Ordinary colic." (Occurring in spasms, relieved by pressure and by the passing of flatus.)
 - b. "Umbilical colic." (Recurrent pain referred to the umbilicus. "These are by no means uncommon, but their real nature is obscure . . . probably genuine colic in the large intestine in constipated, neurotic children.")
 - c. *Enterospasm.* (In children with mucomembranous colitis.)
 - d. *Chronic intestinal obstruction.*
3. *Appendicular pain.*
 - a. Pain in right lower quadrant, due to appendicitis, worms, and especially to enlarged nodes, a condition commoner than has been realized.
4. *Causes in the urinary tract.*
 - a. Pyelitis, calculus, kinked ureter, etc.

The conditions listed are well-recognized causes of pain in and about the abdomen, for all of which the physician must be on his guard. Of particular interest in the present study are "ordinary colic," "umbilical colic," and "enterospasm," the frequency of which is recognized by Hutchison but for which he gives unsatisfactory nomenclature and no explanation.

In the third article, Brennemann³ discusses the abdominal pains which occur before, during, or after any of the acute upper respiratory infections of childhood. He stresses the fact that different epidemics of respiratory disease vary widely in their clinical manifestations,—particularly in children. Epistaxis, vomiting, otitis, cervical adenitis, infectious diarrhea, sepsis, nephritis, pyelitis, toxic rashes,—any one or several of these may dominate the picture in a given epidemic.

Certainly the majority of St. Louis pediatricians (and there are many similar reports from elsewhere) were called upon to treat during January and February of this year large numbers of children whose principal complaint was vomiting and in whom upper respiratory infection, of small moment in itself, was present. A convenient term used to describe epidemics of this sort is "intestinal influenza."

The abdominal cramps which Brennemann describes in connection with upper respiratory infection are explained by him on the basis of mesenteric and retroperitoneal glandular adenopathy. This contention is substantiated by the presentation of several cases in which the abdominal symptoms were so marked as to lead to exploratory laparotomy, revealing as the only pathological condition the lymphadenitis referred to. Brennemann believes that certain of the swallowed organisms have a predilection for definite areas of the gastro-intestinal tract,—an observation which, he reminds us, holds good for the respiratory tract. This results in localized enteritis,—usually insufficient to produce diarrhea—which causes the secondary adenitis.

Now lymphadenitis of this sort may explain the abdominal pains, not only in Brennemann's cases but also in many cases not proved by operation. I believe, however, that in only a limited number of cases of respiratory infection can the predominating abdominal pain be thus accounted for. It is the cases which are inexplicable on the basis of abdominal pathology which are decidedly in the majority and which are the object of the present study.

"INFECTIOUS VAGOTONIA."

I believe that a proper correlation of symptomatology with physiologic, anatomic, and

1. Helmholz, W. F.: *Minnesota Med.*, 4:608, October, 1921.
 2. Hutchison, R.: *Brit. M. J.*, 1:1 (January 1), 1921.

3. Brennemann, J.: *Am. J. Dis. Child.*, 22:493 (November), 1921.

pharmacologic observations, indicates that the majority of the alimentary disturbances often associated with foci of infection in children are the result of an autonomic imbalance. The condition may be loosely epitomized in the term "Infectious Vagotonia." Before presenting illustrative cases, certain explanations must be made.

SYNDROME OF AUTONOMIC IMBALANCE IN ADULTS AND IN CHILDREN.

For detailed studies of disturbances of the autonomic nervous system the reader is referred to the publications of Kessel, Lieb, and Hyman.⁴ The syndrome which the authors call autonomic imbalance and which Eppinger and Hess call Vagotonia,⁵ includes such symptoms as tachycardia, tremor, exophthalmos, sweating, asthenia, abdominal cramps, and diarrhea. To these symptoms Pottenger⁶ adds, as part of what he calls the "parasympathetic syndrome," hyperchlorhydria, spastic colon, bradycardia, asthma, hay fever, irritable bladder, etc.

The observations of all these authors apply to and were made upon adults. Last year I⁷ endeavored to show that the manifestations of the same condition in infants are principally gastro-intestinal, including (a) great fretfulness, aggravated by feeding, perhaps with failure to gain; (b) projectile vomiting, with diarrhea or constipation,* with or without visible peristalsis; (c) ready response to atropin therapy (the whole picture being usually wrongly or at least inadequately described as "pylorospasm.")⁸

THE RÔLE OF PARENTERAL INFECTION.

Kessel and Hyman⁴ mention focal infection as one of the etiologic factors in the production of the autonomic imbalance of adults. In two of their cases such infection was the most probable factor. In nearly half of their 86 patients infection was present and may have been an exciting cause. (See case No. 1, presented below.) In discussing the etiology of the infantile form of the disease, I⁷ mentioned the

frequency with which vomiting, cramps, and diarrhea may accompany foci of infection in infants and children.

At this point, mention must be made of the studies of stool acidity by Tisdall and Brown⁹ These observers find that in a large number of cases of parenteral infection the acidity of the stools was increased and that the stools were changed from pasty to loose and curdy consistency. They add that the important factor in the production of acid from carbohydrates in the intestine is the amount of undigested sugar which reaches and remains in the zone of fermentation (terminal portion of the ileum and the large intestine.) Now, from the point of view of their study of intestinal contents, it is the acidity which causes the diarrhea. But from the point of view of intestinal activity, it is the diarrhea (i. e. excessive motility) which causes the increased acidity. For such (neurogenic) hypermotility allows no time for carbohydrate absorption. Tisdall and Brown consider that the deficient absorption is due to lowered vitality of certain intestinal cells,—an explanation which to my mind is unconvincing.

INTERRELATION OF DIFFERENT PARTS OF THE AUTONOMIC NERVOUS SYSTEM.

The experimental physiology of the autonomic system clearly demonstrates the close interrelation of its several parts. As Pottenger says,⁶ "All organs innervated by the vagus are intimately bound together and are capable of transmitting reflexes to, and of receiving reflexes from each other." As an example of this he cites the reflex influence of eye strain on other organs, and the slowing of the pulse in inflammation of some part of the alimentary canal. The recent observations of Carlson and Litt¹⁰ give interesting evidence of the gastro-intestinal response to remote autonomic stimuli.* From experiments on dogs, using anchored "balloon pylorometers," these authors conclude that the vagus nerves send both motor and inhibitory efferents to the pylorus and that protracted pylorospasm may in special cases be due to hyperactivity of the vagi motor system, since the spasm may decrease or disappear on section of the vagi. They add that some of the vagi effects obtained for the pylorus may be indirect effects from altered motor states of the stomach and duodenum. They note finally that mechanical or electrical stimulation of any visceral afferent nerve may induce a temporary spasm. They obtained con-

4. I. Am. J. Med. Sci., 165:387 (March), 1923.

II. Am. J. Med. Sci., 165:513 (April), 1923.

III. Arch. Int. Med., 31:433 (March), 1923.

IV. Am. J. Physiol., 63:60 (December), 1922.

V. Am. J. Physiol., 63:68 (December), 1922.

VI. Am. J. Physiol., 63:83 (December), 1922.

VII. Am. J. Physiol., 63:88 (December), 1922.

VIII. J. A. M. A., 79:1099 (September 30), 1922.

IX. J. A. M. A., 79:1213 (October 7), 1922.

5. Eppinger, H., and Hess, E.: Nerv. and Ment. Sys. Monograph, Series No. 20, New York, 1915.

6. Pottenger, F. M.: Symptoms of Visceral Disease, Mosby & Co., 1919.

7. White, P. J.: Gastro-Enterospasm as a Manifestation of Autonomic Imbalance in Early Infancy. Am. J. Dis. Child., 26:91 (July), 1923.

*According to Pottenger (6) this would depend on the degree of parasympathetic hyperactivity, and on whether the longitudinal or circular muscles receive the greater stimulation.

8. It is noteworthy that Henderson (V. E., Canadian M. A. J., 13:560 (August), 1923) gives added evidence that atropin relieves intestinal spasm without abolishing movements of a normal type, or the normal central control. See also Langley, J. N.: The Autonomic System, Cambridge, 1921.

9. Tisdall, F. F., and Brown, A.: Am. J. Dis. Child., 27:312 (April), 1924.

*It must be borne in mind that their tracings were obtained only from the pylorus. The same results might have been obtained from other portions of the intestine.

10. Carlson, A. J., and Litt, S., Arch. Int. Med., 33:281 (March), 1924.

tractions of the pylorus by pressing on, rubbing, stretching, or crushing the following organs: urinary bladder, ureters, kidneys, large and small intestines, mesentery, and parietal peritoneum. All of these reflexes into the pylorus were obtained after section of both vagi in the neck, thus making it certain that the splanchnic nerves contain the main efferent paths.¹¹

From the point of view of this paper it would be of great interest to determine whether under the same circumstances the same stimuli applied to the faucial tonsils, to the middle ear and to the sphenopalatine ganglion would not produce the same results. I feel quite sure that this would be the case.

The difference between experimental stimulation and stimulation by infection is one of degree and of duration. The commonest sites of focal infection in children are the nose, sinuses, pharynx, middle ear, and tonsils. The importance of the relation of these parts with the autonomic nervous system and the viscera it supplies, is well brought out in Sluder's discussion of the syndrome of sphenopalatine ganglion neurosis.¹² Inflammation in the region of this ganglion has been shown by Sluder to result not only in a certain type of headache but also, though more rarely, in attacks of vasomotor rhinitis and asthma. He has produced such attacks by stimulation of the ganglion, and has relieved them by its cocaineization. The anatomical reason for this is (Quain) that the fibers of the cervical sympathetic from the nasal ganglion pass downward by way of the vidian and carotid plexus to the cervical sympathetic and give branches to the cervical nerves. Finally, the lower cervical ganglion is in intimate connection and often fused with the first thoracic. Through the lower cervical and first thoracic ganglia pass certain fibers to the heart and lungs.

My contention is that an analogous situation obtains with regard to the tonsils, and also to the middle ear, structures so often inflamed during infancy and childhood, structures, moreover, which are embryologically developed from and neurologically connected with the alimentary tract.

The tonsillar plexus of nerves is formed by a branch from the glossopharyngeal nerve uniting with branches from the middle and posterior palatine branches from the sphenopalatine ganglion (Gray).*

With regard to the middle ear, it is an important though often overlooked fact that a

branch of the vagus (the auricular branch, or Arnold's nerve) taking origin in the ganglion of the root, supplies the outer surface of the drum membrane and the posterior surface of the auditory canal. Mechanical irritation of this nerve, as by scratching the posterior part of the ear canal, produces the "ear cough"—a variety of cough which I believe is so common in cases of otitis in infants and children as often to lead to prescription of cough syrup and neglect of the otitis.

REFERRED VISCERAL PAIN.

The above remarks about visceral reflexes also apply to visceral pain. But there is an added factor necessary to the production of pain, in that the "tissues and organs supplied by the nerves from the autonomic system are not endowed with (direct) sensation."¹³ Visceral pain must be relayed to the consciousness through the cerebrospinal system. "Such organs as the heart, stomach, bowels, liver, kidney, can be cut, torn, burnt, and no sensation elicited. Yet, as we know, pain of a most excruciating character can arise from visceral affections." With regard to smooth muscle, it is not manipulation, but firm contraction that causes the pain.

Mackenzie¹³ attests the fact that "in many instances, the pain is referred to situations remote from the organ giving rise to it. Thus the pain of biliary colic may be felt in the epigastrium, the pain of renal colic in the testicle. The reason for this is that in the course of development, the tissues that in a low scale of life immediately covered the organ, have been displaced." This gives added importance to the fact that embryologically the tonsils and middle ears and pharynx are developed from the primitive foregut. For though pain, or rather the sensation destined to register as pain, is referred by way of the autonomic nervous system, nevertheless the embryologic relationships of the organs involved seem to have much to do with the location of the referred pain.

TREATMENT.

The infectious variety of autonomic imbalance, or "infectious vagotonia,"* is of course the variety in which the best and quickest results are obtained by therapy. For the autonomic symptoms usually disappear promptly when the focus of infection is cleared up. In the acute cases, atropin is seldom necessary; and where the symptoms are so transient anyway, it would be difficult to tell how much credit for improvement to give the drug.

11. See also Harris, P. A.: *Surg., Gynec. and Obst.*, 9:638 (1909), quoted by Finney, J. M. T., *Ether Day Address*, 1914, p. 12.

12. Sluder, G.: *Lancet-Clinic*, April 24, 1915. See also J. A. M. A., 61:1201 (September 27), 1923.

*The ciliary, sphenopalatine, otic, and submaxillary ganglia, described in connection with the fifth cranial nerve, may be regarded as belonging to the autonomic system (Gray).

13. Mackenzie, J.: *Diseases of the Heart*, 3d Ed., 1918, p. 57.

*The principal objection to the term "vagotonia" is that it limits the conception of the disturbance to the vagus nerve, which, though the most important part, is by no means the whole, of the autonomic system.

In the chronic cases, in which the infection itself has not responded to treatment,—as in pyelitis and adenoiditis, with otitis and adenitis often present, atropin in large doses necessary for peripheral effect is distinctly beneficial in that it relieves the autonomic symptoms. It cannot be expected to relieve local and toxic symptoms.

Adults and older children are likely to object to adequate doses of atropin, because of the partial blindness resulting from the paralysis of the ocular muscles of accommodation.

ILLUSTRATIVE CASES

Case 1. J. B., woman, adult, friend of the writer, patient of Drs. Kneal and Mills, whom I wish to thank for permission to present the case. She had been fairly well prior to a severe attack of diphtheria in 1917. Since this illness she has been subject to tremor and nervousness, with moderate hyperidrosis, frequent attacks of palpitation on exertion, also abdominal cramps and diarrhea. During this time she has had numerous attacks of tonsillitis in which the symptoms described have been most marked. Though she has been obliged to go to bed during the acute attacks she has never submitted to remaining there long enough to insure satisfactory convalescence. In July, 1921, the clinical and X-ray findings pointed so definitely to involvement of the gall-bladder and appendix that these were removed. Both organs were found to be moderately thickened. The symptoms and signs referable to these viscera were apparently superimposed upon her old infectious vagotonia. For her tremor and her vague, irregular abdominal pains, her frequent attacks of diarrhea continued and even increased. Finally, she consented to the removal of her tonsils, which had continued chronically and often acutely inflamed. During the rest which followed she felt perfectly well. Then, against advice, she resumed work too soon, became much exhausted, had a sudden rise of blood pressure (which had previously always been normal); urine, blood examinations were negative. This frightened her into resigning her position and going home for a rest. In two months she has gained fifteen pounds and is now symptom-free. Her blood pressure has returned to nearly normal. Beside the clinical interest of this patient, she is an excellent illustration of the prime therapeutic importance of rest in addition to removal of foci of infection.

OLDER CHILDREN

Case 2. J. S., girl, age 10. First seen March 6, 1924. During the preceding two months she had had three attacks of diarrhea, vomiting, and abdominal cramps. Appendicitis had naturally been suspected. I saw her just after the last attack. Her temperature was 99, ear drums, chest, abdomen, were entirely negative, urine, stool, negative. The only positive findings were: very marked but receding purulent rhinopharyngitis, and a few pus-containing crypts in the left tonsil. Following local treatment of the nose and throat she has been symptom-free during the admittedly short interval which has elapsed.

It is of interest that in giving the history of this girl's infancy, the mother volunteered the information that she had been extremely fretful, and had vomited a great deal during the first two months, during which she had been breast-fed.

Case 3. E. L. W., girl, age 4. (It is noteworthy that her sister, P. W.,⁷ was a typical case of infantile

gastro-enterospasm, her mother and her mother's sister subject to hyperidrosis and to attacks of abdominal cramps and diarrhea,—these symptoms in her mother improving after the removal of chronically infected tonsils). She was seen March 4, 1923, having for three days previously complained of abdominal cramps and of desire to defecate without being able to do so. Daily examination during this time had revealed nothing except a mild pharyngitis, which had been treated locally. On the above date there was definite reddening of the upper half of the left drum-membrane. For the first time she complained of left earache. Her stools now became very loose and watery, being always preceded by severe cramps. On the sixth day of illness, the drum was opened by an otologist, paracentesis being repeated two days later. By the day after the second paracentesis, *i. e.*, the ninth day of illness, she passed but two stools in 24 hours. Her general symptoms then improved rapidly though her ear discharged for about three weeks.

Case 4. G. G., boy, age 7 (patient of Dr. Hugh McCulloch, whom I wish to thank for permission to present the case). This patient illustrates the need for vigilance in determining the real nature of cases of this sort. He was first seen November 1, 1923. Since early infancy this boy had had attacks at irregular intervals, during which he refused food, vomited, complained of severe generalized abdominal cramps at the same time becoming quite dyspneic, wheezing, coughing,—the picture of thoracic and abdominal distress. His tonsils and adenoids had been removed two or three years previously. When seen last November, careful examination was negative except for considerable infection in the nose and pharynx. Blood, sputum, stool, etc., were negative. Though he has had two or three of his abdominal attacks since November, these have not been associated with the dyspnea which had always accompanied them before that time. Of great interest in this case was the X-ray report of Dr. Larimore (November 26, 1923). Gastric motility and tonus were normal. There was colonic motor delay of two degrees, the barium being only at the splenic flexure in 24 hours. The appendix was visualized lying along the left side of the lower cecum and not displaceable. There was moderate tenderness over the appendix. The diagnosis was irritable appendix with secondary evidence of past appendiceal disease. April 19, 1924, Dr. Zeinert (interval operation) removed a very long appendix, greatly thickened at the distal end which contained a fecolith. It was surrounded by many dense adhesions.

The patient's attacks of dyspnea had never been regarded as true asthma. But their definite association over a period of years with what was later proved to be appendicitis, constitutes presumptive evidence that the appendix was responsible for "autonomic insults" resulting in the dyspnea. (The family history is of interest in that the paternal grandfather has true asthma which began late in life. The father had "asthmatoïd" attacks similar to those of the boy, which began early in life and which cleared up after the removal of his (also pathological) appendix.

INFANTS

Case 5. J. T., girl, age 10 months, first seen at the age of four months, with chief complaint of almost constant screaming, aggravated by feeding, which was always taken with the greatest reluctance. There was no vomiting, nor has there been any fever. Constipation was marked. Breast feeding had been stopped at the age of one month, and during the following three months every known infant food had been tried. The whole milk modification which I

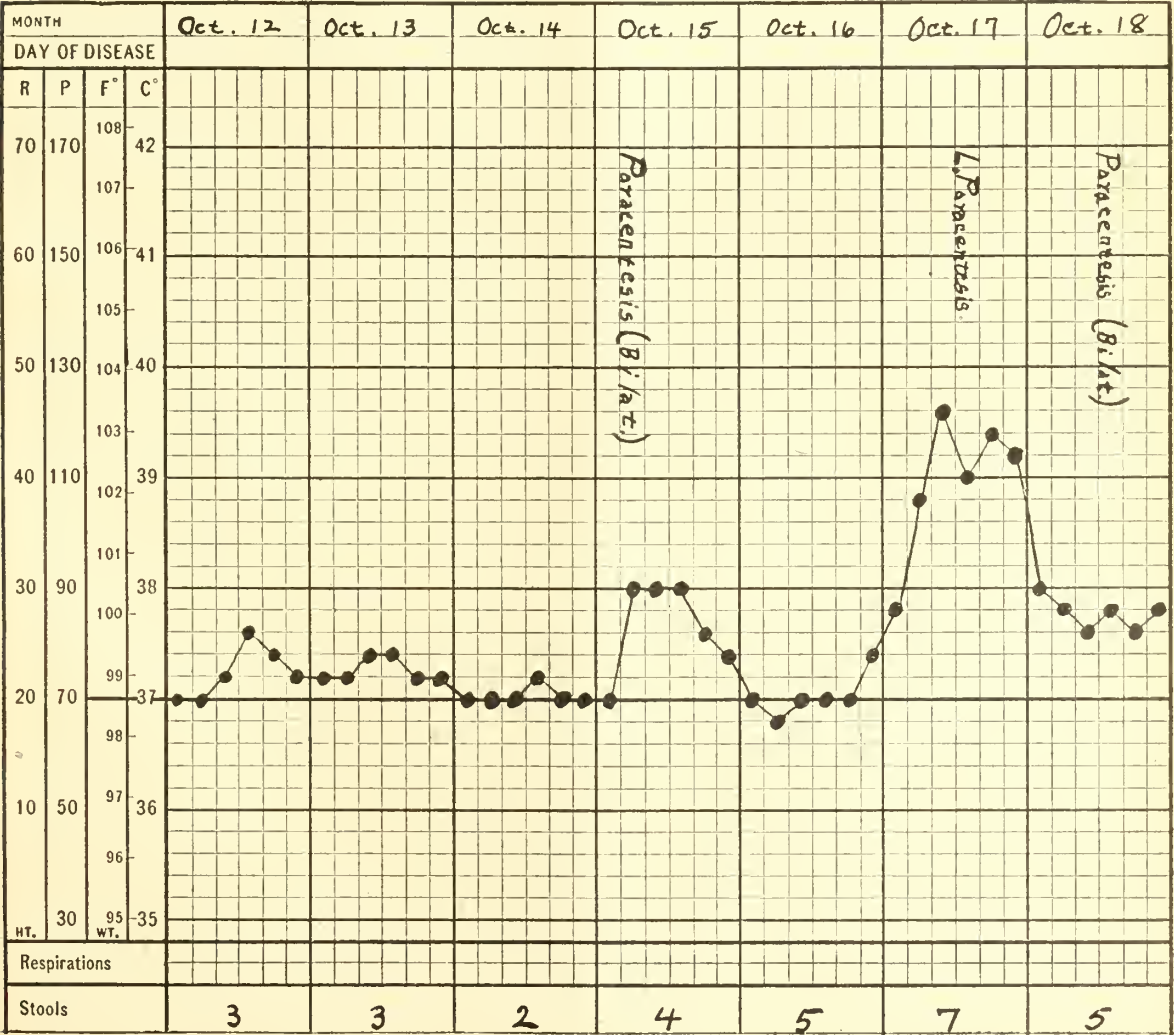
gave her was without effect, good or bad. Examination was entirely negative. The state of nutrition was fair. A routine specimen of urine was requested, and the baby was put upon atropin, according to the method previously described.⁷ The improvement was not as marked as I had anticipated. She was much less fretful and less constipated but still vigorously resisted feeding. At the end of a week a specimen of urine was obtained and was found to contain an enormous amount of pus. This pyuria still exists though the quantity of pus has greatly diminished. Treatment (the condition being considered to be pyelocystitis) has consisted in keeping the urine alkaline—with occasional intervals of acid and hexamethylenamin treatment—and in forcing liquids. Her general behavior was definitely worse without atropin than with it, attempts at stopping it resulting in increased distress.

Case 6. R. L., boy, age 13 months, first seen at the age of two months. Mother has hay fever. Between the ages of two and eight months the patient had six attacks of otitis. Except during these attacks he was not fretful. Only once was it necessary to have the ear drums punctured. He was throughout subject to frequent rhinitis. During the entire first five months of his life he had a moderate diarrhea, the stools usually numbering from four to six daily.

The stools were greenish and watery and kept the buttocks irritated. Adequate doses of atropin were of distinct value at first. Later the benefit from the drug was questionable. At the age of seven months his breathing became difficult, with "wheezing" and inspiratory suprasternal retraction. This, however, subsided in about two weeks. At the age of eight months a mass of infected adenoid tissue was removed. Since that time he has been entirely well. It is believed that infectious adenoiditis was responsible for this patient's whole symptom-complex.*

Case 7. L. M., boy, admitted to Children's Hospital, September 23, 1923, in a hypothreptic condition, at the age of five months (weight 9 lbs.). Weeks of strenuous efforts at my well-baby clinic, with a co-operative mother and constant supervision by the nurse, giving a very high calory diet of lactic milk and corn syrup, had been in vain. He had had frequent attack of diarrhea, with very little vomiting and no fever. Fretfulness had been marked. During his five weeks' stay in the hospital he gained two pounds notwithstanding the fact that he had such frequent attacks of otitis that six aural paracenteses were done, four of which were bilateral. The paracenteses were, of course, done for bulging drums

*Rood-Taylor, discussing Helmholtz's paper,¹ cites a similar case.



which were accompanied by rise of temperature. Profuse diarrhea occurred so frequently that it was suggested that the feeding (skimmed lactic milk and corn syrup) might be at fault. The coincidence between diarrhea and rise of temperature from otitis was so striking, however (see Fig. 1), that the feeding was even increased, without ill effect. Finally, on October 24, a mass of infected adenoid tissue was removed from the nasopharynx, following which he gained rapidly in weight and was discharged eight days later. There has been no return of any of the symptoms to date.

Case 8. J. D. S., boy, now two and a half years old, presented because of the striking regularity with which diarrhea and abdominal discomfort accompanied the eruption of each new tooth. There was no assignable dietary or infectious cause for this.

It is suggested that the dental nerves, through the ganglionic communications of the trigeminal are the means by which difficult dentition may, in unusual cases, effect a neurogenic diarrhea.

CONCLUSIONS.

1. The principal manifestations of autonomic imbalance in infants and children are abdominal discomfort, vomiting, and diarrhea.

Parenteral infection, most commonly found in the upper respiratory tract, may often result in this condition. This is due to the interrelation of different parts of the autonomic system, and to the readiness with which symptoms in one part may produce symptoms in other parts.

3. Treatment consists in (a) local treatment of the focus of infection; (b) rest; (c) large doses of atropin in cases resulting from chronic infection.

316 Wall Building.

DISCUSSION

DR. FRANK C. NEFF, Kansas City: It takes a good deal of courage to undertake a discussion of colicky babies. The subject of the hypertonic, colicky, crying baby is, of course, a big one, and is one that has not been settled yet; but certainly such papers as this are on the right track towards the solution. If there is anything that worries the life out of the medical man it is the crying, colicky baby that apparently is doing all right, is gaining, but the neuropathic heredity, the neurotic environment in the home almost make a neurotic out of the doctor.

It is a fine thing to call attention to the physical examination of the child—find out what is wrong, if anything. The nose, throat, ears and urine should be examined, the question of hereditary syphilis settled. When this is done, then the therapy can be determined.

DR. JOHN ZAHORSKY, St. Louis: I cannot help but sound a warning in regard to parenteral infections. We must remember also the enteric or intestinal infections. Many cramps and diarrheas that we think are simply indigestion are infections of the solitary follicles. We find a little pus in the stool, often with large lymphoid cells in it, which cannot come from any other place than the solitary follicles. These local infections of the upper respiratory tract may be associated with an enteric infection. Children cannot go through school without some of these infections and only a few show autonomic imbalance. You may say the constitution is different, but that is not the only factor. Others may get well

of the autonomic imbalance and still have a running ear. I do not say that the nervous system has no place, but I should hesitate in saying that there is an autonomic imbalance when possibly there is a local condition in the bowel.

During the last fall and winter we had an epidemic of severe vomiting and diarrhea in young children, a condition which we had known for many years and which we used to think was due to frozen milk. We had a gastroenteritis associated with severe vomiting and light colored stools and many associated with respiratory infection. Why? Because it was the time when respiratory infections were frequent; but that does not show the respiratory infection as the cause of the vomiting and gastroenteritis. The respiratory infection was present in perhaps half the cases. It is probably some other toxic substance the nature of which we do not know.

DR. JULES M. BRADY, St. Louis: Dr. Sidney Haas, of New York, described these cases a number of years ago as hypertonic babies. He probably has done more than anyone else in popularizing the knowledge of this condition. It is the baby that is crying and is colicky, that vomits, has diarrhea and does not thrive that has worried us for so many years. Now we find a great source of satisfaction in being able to do something to relieve the condition. Dr. White calls attention to the fact that the baby can apparently be perfectly well and then as the result of a slight infection, symptoms of autonomic imbalance become manifest. The diagnosis of this condition is not always apparent. The baby comes to us with projectile vomiting and we feel positive it is a case of pyloric stenosis and then as the result of the exhibition of atropin, it is all of a sudden cured. How can we make the diagnosis? A study of these cases shows that unless the therapeutic test is applied we cannot always be sure of the diagnosis. A point that helped a lot in the study of young infants is to notice whether they are able to hold up their head. The baby that is able to hold up its head at one week of age, is the one that frequently becomes colicky and is immediately relieved by atropin. The atropin should be fresh and one should know the druggist who puts it up. The dose should be started at one drop of a solution of 1-2 grain to the ounce; if we do not get relief the dose must be increased to 9 or 10 drops, which seems a huge dose. Some of these babies, on increasing the dose to two drops, develop symptoms of belladonna poisoning, such as fever and redness of the skin, and then the medication must be stopped.

The more one sees of these cases the more grateful one feels to the men who called attention to the condition and showed the way to cure them. Many young children have pains in the abdomen that are not caused by a vagotonia. Some of them are suffering from enlarged glands and some have the condition described by Dr. Zahorsky.

DR. PARK J. WHITE, (closing): The hereditary nature of some of these cases is important. Many present positive family histories.

In regard to enteric infection, such a condition may exist in some cases, in which, I think, there is likely to be a slight fever. A diagnosis of enteritis requires pathologic confirmation. Vagotonia, which is strictly functional, is insusceptible of pathologic confirmation. It is established that with hyperactivity of the intestinal tract through some dietetic error, pus and mucus will appear in the stools in the known absence of an enteritis. The condition is not common. There are many children with upper respiratory infection that do not act this way. I am discussing only the children who do.

The importance of the therapeutic test is great. It is not so definitely applicable to cases due to foci

of infection because they get well when the foci are eliminated.

The matter of giving dentition its due is very important, providing everything else has been ruled out. But the pediatrician who blames dentition for anything until he has ruled out everything else, is making a mistake.

RECTAL PALPATION IN GYNECOLOGY AND OBSTETRICS*

WM. KERWIN, M.D.

ST. LOUIS.

By glancing through the text books of gynecology and obstetrics it becomes evident that the status of rectal examination in this special field is not yet definitely established. While in some of the works the subject is not mentioned at all, or very briefly dismissed, certain authors admit the usefulness of this diagnostic procedure with well defined limitations, and only in a few of the most recent books does the question receive a thorough and more detail discussion. With such divergences it is not surprising that the profession at large has paid little or no attention to rectal examination as a routine measure in gynecology and obstetrics. It can, however, no longer be denied that this simple procedure offers very important advantages to the general practitioner and for this reason it is taught systematically in all the clinics connected with our department to the students whom we aim to train into good all around practitioners.

The position of the patient is the same as for any vaginal examination. If, however, we have to examine the patient in bed or on a couch, it is desirable to elevate the pelvis by a pillow. The gloved and well lubricated index finger is gently inserted into the anal opening while the patient is requested to strain as during defecation. By a slight rotating motion the finger glides easily through the anal canal into the ampulla recti and seeks its way along the anterior wall of the rectum thus palpating the structures with which it comes into contact. The first and most important landmark is the cervix uteri which represents a characteristic prominence. Not only the outline of the cervix can be mapped out but often also the configuration of the external os. The sacro-uterine ligaments and the anterior surface of the sacrum are very readily palpated. If now the other hand is laid upon the abdomen, the uterus can well be palpated as in a combined vagino-abdominal examination and its size, shape, position, consistency, and mobility be determined. The ovaries, particularly if lying in the cul-de-sac, are well recognized, and the

base of the broad ligaments is easily accessible to the touch. In fact, in girls with intact hymen or in patients with atresia of the vagina or vaginismus which resists the insertion of the finger, this is the only way to make a gynecological examination. The procedure should be entirely painless unless hemorrhoids or fissures are present. In such a case we either desist from any rectal examination for gynecological purposes, or anesthetize the tender parts by an ointment which contains some cocaine. It is, of course, essential that the rectum be empty, and if necessary, an enema must be given an hour or two before the examination.

Higher portions of the genital organs which can not be felt at once by this combined recto-abdominal touch, can be brought within our reach by having an assistant pull the cervix downward by means of a tenaculum in the cervical lip.

The entire procedure, which is so very simple to the experienced examiner, naturally seems difficult to the beginner. He will fail to recognize the cervix and other landmarks. Being accustomed to touch the uterus directly from within the vagina, his sense of touch does not at once respond if the recto-vaginal wall is interposed between his finger and the organ to be palpated. Like any other method, rectal examination requires practice. We go about it in our instructions in this way that we have the student examine the patient first with the index finger in the vagina and familiarize himself with the outline of the cervix. Now the middle finger slips into the rectum while the index finger remains in the vagina and controls or interprets the impressions received in the rectal finger. The common mistake of taking the cervix for a tumor is thereby avoided. Finally, both fingers are withdrawn, and the index finger alone is inserted into the rectum to ascertain the situation without any guidance, as it were. A point of caution should here be made. If the vagina happens to be infected with gonorrhoea, it would be possible to contaminate the rectum unless the glove or finger cot is changed.

The steps followed in teaching are therefore: vagino-abdominal, vagino-recto-abdominal, and recto-abdominal palpation.

Aside from teaching purposes, we often make use of vagino-recto-abdominal examination when we want to inform ourselves as exhaustively as possible, regarding retro-uterine tumors, accumulations of fluid in cul-de-sac, sacral growths, infiltrations of the parametria, abnormalities of the pelvic walls, arteriosclerosis of the pelvic vessels, and the like.

The foregoing remarks contain numerous allusions to the possible uses of rectal examination in the field of gynecology. In addition to

*Read before St. Louis Medical Society, November 20, 1923.

these, it may be pointed out that the degree of retroflexion of the uterus can be determined with greater accuracy than by a mere vaginal examination. The same is true of small fibroid nodes in the posterior wall of the uterus. The involvement of the higher portion of the cervix from an adenocarcinoma hidden in the cervical canal can be determined in no other way. Extension of cervical cancer into parametria or sacro-uterine ligaments is better appreciated by rectal than by vaginal touch. Metastases near the pelvic walls which occur after hysterectomies, are thus discovered long before they are palpable through the vagina. Ectopic pregnancies, particularly if associated with hematoceles, are readily accessible to the touch, and so are inflammatory thickenings in the parametria and about the sacral nerves.

Lest there be a misunderstanding let me state emphatically that *in gynecology rectal examination is not to replace vaginal examination but is to supplement the latter to a much larger extent than it has been used in the past.*

In obstetrics, on the other hand, rectal examination bids fair to become the routine method of examination. The principal danger in obstetrics is, and always has been, from infection. The maternal mortality from puerperal sepsis is appallingly high and, unfortunately, shows little or no tendency to decline. Of course, not every infected woman dies and the percentage of maternal morbidity is probably ten times higher than the mortality. It was the immortal merit of Ignaz Semmelweis in 1846 to have discovered vaginal examination as the most frequent source of infection. Any diagnostic method which could reduce the necessity of vaginal examinations in labor must needs help in reducing the danger of infection. For this reason the external examination first taught us by Leopold is of the utmost value in obstetrics. There are, however, certain very important points such as the condition of the cervix, the degree of dilatation, the relation of the presenting part to the pelvis, which can not be determined by external examination. These, on the other hand, are the very questions which can be answered by rectal examinations. It is entirely possible to conduct a labor from beginning to end exclusively by rectal examination and without ever introducing a finger into the vagina. To be sure, there are exceptions to this rule as to any other rule, but in a general way it may be said that the difficulties in recognizing the conditions present decrease with the growing experience of the examiner. As a practical hint, rectal examination in labor is particularly valuable during a contraction because then the dilatation of the os and even the bulging membranes are particularly well discernible. If, occasionally, the rectal touch fails

to give the desired information, or where an uncertainty exists, a single vaginal examination performed after carefully cleansing the patient, will do no harm. This refers more particularly to unusual and pathological conditions such as brow, face or occipito-posterior presentations; but after all these and other complications represent but a very small minority of our obstetrical cases. Rectal examinations have this further advantage that they may be used repeatedly and without any time consuming preparation on the part of the physician and the patient, and there is no chance of infection as long as gentleness is observed and the external genitals are not touched during examination. Certain writers, for instance, Labhardt of Switzerland, have suggested that bacteria living in the lower parts of the vagina may be massaged upward and actually rubbed into the external os by the rectal manipulations, and while this objection seems theoretically sound, practical experience has proved to us as well as to numerous other writers on the subject that this danger need not be anticipated. In fact, we have formulated for ourselves the rule that no patient who might possibly have to have a Cesarean section, should have any other examination than through the rectum. It is this safety against puerperal sepsis that signally recommends rectal examination as the routine procedure in confinement cases. If this is true in hospital work, how much more does it apply to home deliveries where often even the most elementary antiseptic and aseptic precautions are conspicuous by their absence. It is, therefore, not too optimistic to say that the general adoption of rectal examination in labor by the rank and file of the profession is apt to bring about the long hoped-for reduction in puerperal sepsis.

SUMMARY.

1. The more frequent use of rectal examination will be a material aid to the practitioner in making gynecological diagnoses.

2. The technic is very simple and proficiency is soon acquired if the suggestions submitted in the body of this paper are followed.

3. In gynecology, rectal examination can not replace the vaginal examination but should supplement the latter.

4. In obstetrics, rectal examination should be the method of choice and, combined with external examination, will suffice in the vast majority of the cases, to conduct labor intelligently and successfully from the beginning to the end.

It combines safety against infection with economy of time.

6. By reducing materially the need of vaginal examinations, rectal examination may be

one of the foremost means of lessening the high percentage of maternal mortality and morbidity from childbirth.

Lister Building.

VESTIBULAR TESTS IN RELATION TO INTERNAL MEDICINE

H. W. LYMAN, M.D.

ST. LOUIS

The examination of the vestibular apparatus in cases of dizziness is just as important as the examination of the eyes in visual defects. Disturbances of equilibrium may be caused by numerous conditions, but in all cases in which that disturbed perception of motion, known as "vertigo," results there is some reaction upon the vestibular apparatus. By the "vestibular apparatus" we mean the so-called static labyrinth, the function of which is to perceive motion, the centers in the brain in which messages from those organs are interpreted, and the nerve pathways connecting them.

The static labyrinth consists of a series of chambers in each temporal bone. Each labyrinth is composed of three semicircular canals opening into a space known as the vestibule. Each semicircular canal has an expanded, or ampullated end and a non-ampullated end. The horizontal semicircular canal inclines downward and backward at an angle of thirty degrees with the so-called base line of the skull and opens into the vestibule by two separate orifices. The superior or anterior vertical canal extends outward and forward midway between the frontal and sagittal planes of the skull, and at right angles to the horizontal canal. The posterior vertical canal extends backward and outward midway between these planes, at right angles to the anterior vertical canal and at right angles to the horizontal canal. These canals open into the vestibule by separate orifices for the ampullated ends, but the non-ampullated ends unite to form the common crus and open into the vestibule by a single orifice. These canals and the vestibule are filled with a fluid of light specific gravity known as perilymph, and in this perilymph floats the membranous labyrinth which is the actual functioning organ of motion perception. The membranous labyrinth occupies about one-third of the lumen of the bony labyrinth and is attached to the bony walls by fibrous bands at the points of exit of the vestibular nerve fibres. It consists of three semicircular canals occupying the bony semicircular canals and two membranous sacs, the utricle and saccule occupying the vestibule. It is filled with a fluid of heavy specific

gravity and contains the actual end organs of the vestibular nerve. These end organs consist, briefly, in groups of so-called hair cells. In the ampullated end of each semicircular canal is a group of these hair cells known as the crista. A group of hair cells in the utricle extending in the sagittal plane of the head and a group extending across the floor of the saccule in the frontal plane. Overlying these maculae is a gelatinous substance which in each semicircular canal is known as the cupula and in the saccule and utricle as the otolith membranes. The latter contains tiny calcareous masses known as otoliths. Anything which causes the endolymph to move against these groups of hair cells stimulates the vestibular nerve and these nerve impulses excite two reactions—a movement of the eyeballs, which is developed into nystagmus, and a sensation of motion.

Owing to the fact that the semicircular canals are placed at right angles to each other and that the maculae of the saccule and utricle are similarly arranged, it follows that movement of the head in any direction will cause a stimulating current of endolymph to affect some of these groups of hair cells. These reactions follow very definite laws and the examination of the vestibular apparatus in thousands of clinical cases and of more than fifty thousand candidates for the aviation service, who possessed normal labyrinths, has developed a standard series of reactions which we expect to find if the vestibular apparatus is normal. Thus, turning the patient ten times to the right in twenty seconds in a revolving chair, with the head placed thirty degrees forward so that the horizontal canals are parallel with the floor, results in a nystagmus to the opposite side lasting twenty-four seconds, and the patient has a subjective sensation of turning to the opposite side known as "vertigo" lasting approximately the same length of time. This latter phenomenon, which is subjective, can be converted into an objective reaction known as pastpointing.

Pastpointing is the conscious or cerebral compensation for vertigo induced by vestibular stimulation. For instance, a person after being turned to the right has a sensation of turning to the left after rotation has stopped. If with his eyes closed he now be asked to raise his hand from contact with the examiner's finger directly in front of him to a point above his head and then again touch the examiner's finger, he will consciously allow for his supposed rotation to the left and consequently point to the right of the examiner's finger. This will continue until all sensation of motion has ceased, when he will again touch the finger without any deviation. Normally the patient

will pastpoint in a given direction two or three times with each arm. These reactions are due to stimulation of the horizontal semicircular canals. If with the head in the same position the ear be douched with water of sixty-eight degrees Fahrenheit there will occur in about forty seconds a rotary nystagmus to the opposite side and a sensation of falling to the opposite side, which latter subjective sensation can be converted into the objective phenomenon of pastpointing, as in the turning tests. These reactions are from the vertical canals of the ear douched and are caused by the circulation of the endolymph in those canals. If the head be now moved backward through an arc of ninety degrees, this movement of endolymph will take place through the horizontal canal, which is now placed perpendicularly to the floor, and will cause a horizontal nystagmus to the opposite side and a sensation of turning which can be converted into the objective phenomenon of pastpointing. If the opposite ear be now douched with water of sixty-eight degrees, similar phenomena will occur from the stimulation of the irrigated labyrinth, but of course the reactions will be in the opposite direction. These reactions constitute a "normal" corresponding to normal temperature of 98.6 degrees, normal blood pressure of 120-80, or normal vision of 20/20. Any departure from this normal picture must be accounted for by some disturbance of the vestibular mechanism.

Patients classify almost any unusual symptom as "vertigo." For instance, they will say, "Doctor, I have dizzy spells, when everything goes black before my eyes;" or "I have black specks floating before my eyes;" or "I feel confused and cannot think clearly." None of these are true vertigo and do not result from a disturbance of the vestibular apparatus. True vertigo is well defined as a false sensation of motion and is always due to some disturbances of the vestibular apparatus. Our relation to external objects is perceived by vision, by deep muscle sense, slightly by tactile sense, and by the vestibular apparatus, the latter being the special sense organ concerned in the perception of motion.

This vertigo may vary from so slight a sensation of unsteadiness as to be scarcely recognized, to an apoplectiform seizure in which the patient falls without any warning as though struck to the ground and the severity of the attack gives no information as to the origin of the trouble or the seriousness of the condition.

This disturbance of the vestibular mechanism may result from many causes:

First: Lesions in the ear itself. A patient may be suddenly stricken with vertigo, staggering, nausea, vomiting, etc., due to some slight disturbance in the labyrinth such as an anemia

or hyperemia, for instance, which would be only temporary and not at all serious, or the symptoms might be due to a localized or circumscribed inflammation process which would require careful otological observation and treatment, or they might be caused by a suppurative labyrinthitis requiring immediate operative interference. The vestibular tests afford the only practical method of differentiating these conditions.

Second: Intracranial lesions. These conditions may cause nystagmus and vertigo by direct involvement to the so-called vestibular pathways, or by the pressure which results from the lesion. The vestibular tests are of great assistance to the surgeon in localizing many intracranial lesions, but this phase of the subject does not fall within the scope of this paper.

Third: Ocular disturbances. Cases of vertigo which are due to eye conditions and are relieved by proper refractive measures, for instance, can be explained by the constant irritation of the eye muscle nuclei and the direct connection of these nuclei with the vestibular apparatus.

Fourth: Cardiovascular conditions. The vertigo experienced in cardiovascular conditions is, in the author's opinion, due to an unequal supply of blood to the two labyrinths, which is the result of the inelasticity of the blood vessels, making compensation to varying pressures of the blood stream impossible. Any disturbances of this relationship or balance between the two labyrinths results in a vertigo of varying intensity.

Fifth: Toxemias. Vertigo caused by a disturbance of the vestibular apparatus due to toxemias opens up a large and interesting field of study. In these cases we often find three stages: First, an irritative stage in which all of the vestibular reactions are exaggerated and the patient is hypersensitive to vestibular stimulation. If this irritation of the labyrinth is prolonged, or if the toxins are very powerful, we find the sensitiveness of the labyrinth gradually diminishing and in some cases its function totally destroyed. The characteristic feature of vestibular reactions in these cases of so-called toxic labyrinthitis, or toxic irritation of the labyrinth, is that all of the reactions are affected proportionately. That is, they are all exaggerated similarly, or all are obtunded proportionately. Of the drugs affecting the vestibular apparatus, we may call attention to quinine, the salicylates, lead, and formerly alcohol, the latter in its palmy days affording a striking example of an evanescent toxic labyrinthitis.

Pus foci are a very common cause of vertigo and numerous cases have been reported in

which the patient complained of dizziness and the vestibular test showed a departure from normal in which the removal of the pus focus resulted in relief of the vertigo and a return to normal vestibular reactions. For example, one young man who was examined for the aviation service showed a nystagmus, after turning, of forty seconds. Vertigo was exaggerated, as was the pastpointing. On examination, an alveolar abscess was discovered. The involved tooth was extracted, the abscess cavity cleaned out and after healing had taken place the candidate was re-examined and showed an afterturning nystagmus of twenty-four seconds. These pus foci may be found anywhere in the body. For example, foci in the tonsils, in the paranasal sinuses, or around the teeth, are very common causes of vertigo. This so-called toxic labyrinthitis has also been noticed in cases of infected gall bladder, chronic appendicitis, etc., and is not at all uncommon in chronic constipation with absorption from the intestinal canal.

The toxemias due to certain constitutional diseases present another phase of the question. The various infectious diseases not infrequently cause a toxic disturbance of the labyrinth, but mumps and syphilis seem to show an especially destructive effect on this organ. It was formerly thought that, as syphilis affects the auditory nerve so frequently, the examination of the vestibular portion of the eighth nerve would afford us early and accurate information in regard to intracranial lesions in this disease and that if enough cases were examined some vestibular picture or complex would be evolved which would be suggestive of lues. Experience has not borne out this hope in its entirety. It is true that in nearly every case of syphilis there is some variation from the normal in the vestibular reactions, but in the cases so far examined no characteristic picture or complex has been developed which would of itself be suggestive of this disease. It may, however, afford considerable information as to the intracranial progress of the disease in certain cases. The investigation of these reactions in other conditions has been suggested—for instance, in epilepsy by Jones, and in tuberculosis by Dennis—but enough work has not been done along these lines for us to be able to state whether they will differ in their characteristics from the reactions of any other toxic disease.

700 Carleton Building.

PHYSIOLOGIC AMPUTATIONS*

THOMAS G. ORR, M.D.

KANSAS CITY, MO.

As a rule amputations should be done with future function of the amputation stump in

mind. The exceptions are those cases in which amputations are done only as life saving measures. When time will permit the steps in the operation should be carefully carried out so that the stump may be properly prepared for artificial limb fitting. Too often a leg or an arm is cut off with little or no consideration of the future economic welfare of the patient but solely to remove the diseased part and obtain a healed wound. Such surgery is now antiquated. It harks back to the days when extremities were "lopped off" with speed, force and whiskey as the operative and anesthetic requirements and thought of future usefulness of the part entirely foreign to the mind of the operator. An amputation, when done as a definitive operation in a patient who is capable of wearing an artificial appliance, should receive the same careful technical consideration as that given to a hernia or other abdominal operation. Function here, as in all other operative procedures, should ever be the surgeon's watchword.

In reading the average textbook on amputations one can hardly fail to be impressed by the tenacity with which authors cling to obsolete instruments and technic. One might be led to believe that the long two-edged knife illustrated with saws and other knives of like caliber are necessary to cut off a leg when really the comparatively diminutive Bard-Parker is the cutting instrument of choice. Elaborate tourniquets and Wyeth's pins are in the same class and are neither necessary nor desirable in modern surgery.

The various methods of technic presented in textbooks are often misleading, or not sufficiently clear to enable the one seeking information to make an intelligent choice. Methods, with the names of their describers, are there to be used if they please the mind of the reader. Recent years have proved the uselessness of many of these technics which have almost become classical with republication and reiteration.

There is a tendency at present to simplify and standardize amputations. A quotation from Corner, an English surgeon, well indicates the trend of the times. He says: "No longer will student or teacher be bothered with the operations of Lisfranc, Chopart, Pirogoff, Roux, Tripier, Skey, Hey, etc. The leg amputations of Teale, Hey and Faraboeuf are dispensed with. Stephen Smith's operation, together with Price's modification of it, is gone from useful knowledge and practice." It is difficult and often not advisable to attempt standardization of operative procedures. However, it does seem wise to publish textbooks with emphasis upon standard procedures so that they are readily understandable by the

*Read before the Kansas City Academy of Medicine, April 18, 1924.

student and novice in surgery by whom the textbooks are most used.

Time will not permit a rehearsal of the sites of choice for amputation in the upper and lower limbs. A few points in the general technique of amputations only will be considered.

Generally speaking long palmar and short dorsal skin flaps are to be used in amputations of the hand. Likewise long plantar and short dorsal flaps are best in amputations of the foot. In the leg and thigh long anterior and short posterior flaps place the scar in a posterior position where it is least likely to cause trouble. The greatest pressure in a lower extremity stump is on the anterior surface or on the end. In the forearm and arm the pressure of an artificial limb falls on the sides of the stump and not on the end. It is then desirable to have flaps of equal length in the upper extremity placing the scar on the end.

When possible the deep fascia should be raised with the skin and not separated from it. The blood supply is less disturbed by lifting the two tissues together. The age-old instruction that the sum of the flaps should equal one and one-half times the diameter of the part to be amputated still holds good. It is easy to estimate these flap lengths by the use of tape or a strand of catgut. The circumference of the limb is measured. This is approximately three times the diameter. It is then obvious that one-half of this circumference is one and one-half times the diameter and can be easily measured with the string on the skin. Flaps of equal width can be measured with the same string extending one-half way around the limb. Guessing about incisions is not necessary when they can be so quickly and conveniently measured.

The muscle is divided longer than the bone because it immediately contracts when cut. It need not be long enough to form a flap over the bone end but long enough to group about the bone where it may receive a new insertion. A good insertion of the muscle is essential to give maximum power to the stump and prevent retraction and protrusion of the bone, which predisposes to tenderness and ulceration. Where weight is to be borne muscle is not desirable. Excess muscle when receiving weight will become atrophic and fibrous. Too much muscle may produce a flabby stump which easily becomes chafed or edematous and is difficult to fit.

The value of the fascia should be recognized when grouping the muscle about the bone end. This is the strong tissue of the soft parts. The intermuscular fascia holds sutures better than the muscle. The deep fascia surrounds the limb like a capsule and normally serves to keep the muscle within bounds. It should be used for the same purpose at the stump end and entirely enclose the muscle when the wound is

closed. Muscles become inserted into the fascia as well as to each other and to the bone.

Hemostasis should not need emphasis. It should be as complete as possible. Because of serum and blood collection beneath the flaps it is wise to drain most amputations for two or three days except those of the fingers and toes.

Proper treatment of the nerves is essential to avoid tender stumps. All of the chief nerves should be drawn out of the tissues and divided high after injecting the nerve trunk with 95 percent alcohol just proximal to the point of section. This method has been shown experimentally by Huber and Lewis to give the best results in avoiding neuromata.

The bone should be carefully sectioned without shredding of periosteum or laceration of surrounding tissues. It is wise to circle the bone with a knife and with a curet remove all periosteum downward for a short distance from this point. When this is done the bone is sawed across leaving the end bare of periosteum for about one-half centimeter after the aperiosteal method of Bunge. Periosteum is the sensitive portion of the bone. Those who operate with local anesthesia frequently demonstrate this fact. For this reason it is not desirable to have it cover the bone end where pressure might make it tender. The method of making a periosteal cuff to cover the bone end is not helpful or desirable. Bony prominences, such as the tibial crest, are removed by saw, rongeur or coarse file to prevent injury to the overlying skin or fascial flaps.

Suturing of the fascia and skin flaps should be done so that puckerings, pits and dogears may be avoided. Such irregularities tend to produce sensitive skin when a limb is worn. The edge of the long anterior flap is longer than the edge of the short posterior flap. A closure that will heal smoothly can be made by placing each stitch in the anterior flap slightly farther apart than in the posterior, thus gradually distributing the greater distance without producing puckering of any consequence. Drainage placed between sutures usually leaves a smoother scar than when placed at the end of the wound.

With the above treatment, briefly outlined, a good stump may be obtained which is characterized by smooth, sound healing, scar placed where it will receive least friction, freely movable skin over stump end, freedom from tenderness, full range of motion of nearest joint and of such a length as may be satisfactorily fitted with an artificial prosthesis. When these prerequisites are all fulfilled, looking toward a stump that will properly functionate, I think we can safely speak of the operation of amputation as physiologic.

THE JOURNAL

OF THE

Missouri State Medical Association

NOVEMBER, 1924.

EDITORIALS

THE PASSING OF THE OLD TIME DOCTOR

A man who is now a prominent practicing physician was speaking of an old doctor who had just died. "I remember," he said, "when I was an interne, coming in late one night to the hospital and I saw this doctor sitting on the steps." "What is the matter?" I asked him. "Well, that woman we operated today," he said, "I went home and went to bed but I kept thinking about her and I couldn't sleep so I got up and dressed and came over. I thought it was better to be around here in case any complications should come up."

That to us seems to size up the type of physician that represents a period that may not have been as rich in scientific knowledge as the present but that has been one of the greatest factors in making the medical profession not only respected but beloved.

Is it because we are taking too much interest in the patient as a "disease" and not enough as a human being that we are getting away from the personal touch that characterized the old time family doctor? To make a correct diagnosis may be gratifying. Too many physicians may think their duty is performed when they have solved a difficult case. The old time doctor stayed with his patients till the patient either died or got well. His patients had no opportunity to slip off to the chiropractor or Christian Scientist or some other attractive cult that would give him some hope, if not help.

And between the family physician of the old days who carried with him hope and good cheer, if not antitoxin and serum, and the modern specialist who is so busy with a crowded practice and writing papers and attending meetings that he is through when his diagnosis is correctly made, there was another type of man,—the man who kept abreast of or even led the scientific work of his day but still carried with him affection and sympathy; who was not only respected but loved by all whom he strove to serve.

The present year has unfortunately marked the passing of a group of men of this type whose loss will be keenly felt. Among them we mention the names of Drs. Wm. F. Kuhn

and J. D. Griffith, of Kansas City; W. A. McCandless, F. A. Glasgow and Gustave Vogt, of St. Louis. Not only to the scientific achievements and the prominence they attained in their profession but to their love for humanity do we join in paying tribute to their memory.

MISSOURI ASSOCIATION FOR CRIMINAL JUSTICE

A meeting of the Missouri Bar Association was held in the House of Representatives Chamber at Jefferson City on October 15, 1924. The meeting was called to order by the Honorable Xenophon P. Wilfley, of St. Louis, president-elect of the Association, who delivered a short address. Honorable Guy H. Thompson, of St. Louis, retiring president of the organization, was elected chairman and Mr. L. A. Halbert, of Kansas City, Executive Director of the Council of Social Agencies, was made secretary.

The meeting was in response to an invitation issued by the Missouri Bar Association to the professional, social and civic organizations in the state to have their representatives present in order that these organizations might obtain a more thorough understanding of the work which the Missouri Bar Association has undertaken. Dr. H. E. Pearse, of Kansas City, Dr. W. A. Clark, of Jefferson City, and Dr. Emmett P. North, of St. Louis, President of the State Board of Health, attended this meeting as delegates of the Missouri State Medical Association. Among the prominent organizations represented were: The Chambers of Commerce from various cities throughout the state, Rotary Club, Kiwanis Club, National Federation of Women's Clubs, etc.

An Association was organized at this meeting to be known as the Missouri Association for Criminal Justice, the purposes of which are as follows:

"To conduct a state-wide survey of the administration of criminal justice and of the causes and conditions of crime within the State of Missouri; to initiate and secure the passage of legislation and to take such other remedial action tending to diminish crime and to improve the administration of criminal justice as are deemed necessary or as are suggested by the findings and recommendations of such survey; and to promote and secure an intelligent and efficient administration of criminal justice within the State of Missouri through constructive co-operation with all officers, departments, tribunals and agencies, state, city and county, charged with the duty of suppression, prevention and punishment of crime."

Dr. Emmett P. North, of St. Louis, was

elected a director of the organization to represent the Missouri State Medical Association.

It would seem that by showing a kindly interest toward the purposes of this organization our Association will put itself not only in the position of helping to foster a movement intended for the improvement of criminal conditions in general but may reasonably expect the aid of the Association for Criminal Justice in correcting some of the glaring defects in our medical practice act.

DINNER TO DR. NORMAN B. CARSON

On November 7, Dr. Norman Bruce Carson, of St. Louis, will attain his 80th birthday. The occasion is to be made memorable by the organized medical profession of St. Louis when the members of the St. Louis Medical Society and of numerous special medical societies will give a dinner in his honor at the St. Louis Club. Dr. Carson has been a leader in medical circles in St. Louis for many years, his interest in medical practice, medical teaching and medical organization never slackening. In his busy, active life he has earned the affection and esteem of an innumerable host of friends and admirers in and out of the medical profession. The principal speakers at the dinner will be Dr. Richard H. Harte, of Philadelphia, Mr. Isaac H. Lionberger, of St. Louis.

KANSAS CITY CLINICAL CONFERENCE

A sign of the change in the needs of practitioners is shown by the success of the recent Clinical Fall Conference in Kansas City, October 13-18. Here audiences of twelve to fifteen hundred listened with patience and attention to the various clinical addresses given, and the various hospital clinics were well attended. Contrast with this the average society meeting, either county or state. It must be that the one type of meeting supplies a need for the average physician, while the other meets the needs of only a few.

The generally accepted explanation is that the modern physician desires information based on experimental data—that is, he no longer wishes brilliant theories or rhetorical addresses, but desires a clear statement of facts gleaned from the laboratory and the clinic.

Another factor is, of course, the presence at such conferences of men foremost in their particular line of investigation and practice. Meeting these men, listening to them, helps to understand their writings and to appreciate more clearly the problems involved in those particular researches.

At Kansas City there was also during this

week the regular meeting of the Medical Association of the Southwest and the American Child Health Association. These two organizations brought into the city additional elements that tended to make the conferences a success.

It seems to us that this movement toward clinical conferences in different parts of the country is one to be commended. That it is not a local manifestation is proven by the success of the Inter-State Post Graduate Assembly at Des Moines last year and at Milwaukee this year. Therefore, the profession in Kansas City is to be congratulated on the energy and understanding it has shown in developing this fall conference.

THE WOMAN'S AUXILIARY

The first meeting of the Executive Board of the Woman's Auxiliary was held at St. Louis, October 8, with about forty members of the committee present. Reports were made by the President, Mrs. George H. Hoxie, of Kansas City; by the Chairman of Organization Committee, Mrs. Willard Bartlett; by the Chairman of Legislation Committee, Mrs. George Gellhorn; by the Chairman of Finance Committee, Mrs. M. P. Overholser; by the Chairman of Education Committee, Mrs. E. T. Gibson, and by others.

The meeting from beginning to end indicated that the members of the Woman's Auxiliary have developed a highly commendable enthusiasm in this work and have laid out for themselves a large program of activity in conjunction with the officers and committees of the State Medical Association. On another page we publish the address of Mrs. George H. Hoxie, President of the Board, and field notes from Mrs. Willard Bartlett, Chairman of the Organization Committee.

SUBSCRIBE FOR HYGEIA

Have you read the November *Hygeia*, the journal of individual and community health published by the American Medical Association for popular distribution? It will be worth your while to have this copy on your waiting room table and bring it to the attention of your patients for besides the usual articles on popular health topics there is an extensive discussion of Bernarr Macfadden and his *Physical Culture* magazine.

With the discussion of preventive medicine and the instruction of the people in methods of protecting themselves against disease invasion that have developed within the past few years, there was of course a lovely opening presented for some smart fellow to exploit the people by the dissemination of half-truths and

downright quackery enveloped in a thin cloak of near science. Macfadden seems to have been the first person to enter this field. That it is a lucrative field may be assumed from the large number of advertising pages in his magazine presenting all sorts of preparations denied the pages of reputable publications and articles catering to the antivaccinationists and others who are opposed to the advance of scientific medicine.

This article exposing Macfadden and his publication is the first of a series of articles that will appear in *Hygeia* discussing the manner in which the desire for health and the hope of relief from suffering and disease are exploited by the promoters of peculiar cults and fads.

Future articles will deal not only with the Macfadden periodicals but also with all of the prophets of nondescript cults that thrive on the delusions they create in the minds of the sick.

NEWS NOTES

THE Southern Medical Association will hold its next annual meeting at New Orleans, November 24 to 27.

ON October 23, Dr. George A. Johns, State Health Supervisor, attended the meeting of the Audrain County Medical Society, at Mexico, and delivered an address upon the conduct of the state eleemosynary institutions.

THE State Board of Pharmacy recently inaugurated a crusade against illegal pharmacists in Kansas City and has cited a number of pharmacists to appear before it to show cause why their licenses should not be revoked.

DR. ROBERT ADCOX, of St. Louis, the so-called "clearing house" for the medical diploma mill experts exposed by the St. Louis Star lost his license to practice in Missouri, October 13, when the State Board of Health revoked his license.

THE Hospital and Health Board of Kansas City has appointed Dr. John L. Lavan as city physician. Dr. Lavan was recently appointed manager of the Kansas City "Blues" baseball team. He is a member of St. Louis Medical Society but has taken a transfer to the Jackson County Medical Society.

DR. M. F. ENGMAN, President of the Missouri Social Hygiene Association, and Mr. Charles E. Miner, of St. Louis, Secretary of the Association, will attend the meeting of the National Social Hygiene Conference, at Cincinnati, November 19 to 22, and present papers dealing with the work in Missouri.

ARMOUR & COMPANY announce the addition of Parathyroid and Calcium Lactate Tablets to the list of Armour preparations. Each tablet contains 1/20 grain of pure Parathyroids and 2½ grains of Calcium Lactate U. S. P. These tablets are packed in bottles of 100 and may be had from druggists and dealers in physicians' supplies.

THE Masons of Kansas City have begun a movement to establish a permanent memorial in Kansas City in honor of the late Dr. Wm. F. Kuhn, of that city, who was at the time of his death General Grand High Priest of the General Grand Chapter of the Royal Arch Masons of the United States, the largest Masonic body in the world. Dr. Kuhn was the only Missouri Mason ever to occupy that position.

DR. LEON HURWITZ, of Joplin, was unsuccessful in his recent attempt to obtain a review and reversal of his conviction for violation of the narcotic laws and was sentenced to three years in the penitentiary. Dr. Hurwitz was given a two-year sentence and fined \$1,000 in 1921 on a similar charge. His license to practice was revoked by the State Board of Health in 1923 when he was found guilty of criminal abortion.

THE California State Board of Examiners have issued a state warrant for the arrest of Dr. John R. Brinkley, the famous Milford Kansas, "goat gland" specialist, in connection with his activities in the diploma mill scandal. The board has also instituted extradition proceedings for Dr. Robert Adcox, of St. Louis, and several others prominent in the recent diploma mill expose living outside the jurisdiction of the state.

THE following have been accepted for New and Nonofficial Remedies:

Abbott Laboratories: Metaphen, Metaphen Solution 1:5,000.

Swan-Myers Company: Sterile Ampules of Mercury Benzoate, 2 per cent.; Sterile Ampules of Mercury Biniodide (Oil Solution); Sterile Ampules of Mercury Salicylate, 0.097 Gm. (1½ Gr.); Sterile Ampules of Mercury Salicylate, 0.065 Gm. (1 Gr.); Sterile Ampules of Mercury Succinimide, 0.01 Gm. (1/6 Gr.)

DR. A. V. HILL, professor of physiology at the University of London, delivered a series of two illustrated lectures at Washington University Medical School recently. On October 24, he had for his subject, "Heat Production in Muscular Contraction," and on October 27, he discussed the "Dynamics of Muscular Contraction." Dr. Hill, who was awarded the 1922 Nobel prize for his work in the discovery of the mechanism of muscular contrac-

tion, was introduced by Dr. Joseph Erlanger, head of the department of physiology of Washington University School.

THE high infant mortality rate of Kansas City has on a number of occasions caused comment among the medical profession and health workers and from time to time attempts have been made to inaugurate a movement to reduce the infant mortality rate. During the meeting of the Clinical Society at Kansas City recently Dr. S. J. Crumrine of the United States Public Health Service conferred with Mayor Beach upon plans to conduct a health survey of the city with the view of ascertaining the best method of conducting a campaign to reduce the high infant mortality rate.

NINE chiropractors of St. Joseph have been arrested and cited to appear before the criminal division of the circuit court of Buchanan County for practicing medicine without a license. The prosecuting attorney, Mr. Du Val Smith, issued the complaints. Those indicted are: R. R. Downing, W. F. Holloway, Anna M. Gies, J. S. Hughes, J. H. Pourbier, Otis P. Kish, Jessie A. Kish, R. K. Nicholas and A. Sullwold. Mr. Smith's action is the result of a request of the State Board of Health to proceed against these illegal practitioners of medicine. Each of the men arrested gave bond of \$500.00 for his appearance at the opening of the criminal court.

WE patients are learning something by reading extracts from addresses delivered at the meeting of physicians and surgeons. One of the speakers went so far as to say that it is just as important to treat the individual as the disease, and that a good physician must be 90 per cent personality and 10 per cent knowledge, which is nothing less than a hint that we patients sometimes think we are much worse off than we really are.

We have often wondered why our family doctor comes in with a smile on his face and begins talking about the weather or even humorously suggests that we are pretending to be sick just for the purpose of getting a very popular prescription, but now we understand.

The frivolous conduct at a time when we think our life is in the balance is an effort on his part to convince us that we are not so ill as our groans indicate, a theory already advanced by members of the family who have been waiting on us.—*Kansas City Post*.

THE suggestion of Dr. Scott P. Child, president of the Jackson County Medical Society, that Kansas City should take advantage of the free health survey offered by the government is one which will meet with general approval.

No adequate record of vital statistics being kept, the exact status of local health conditions necessarily is vague but it will be easy to accept the suggestions that health laws now violated could be enforced easily and sources of many diseases checked to marked extent.

The pasteurization of milk still appears to physicians one of the most needed precautionary measures in conserving health locally and from the numerous sources of supply the product for distribution to consumers easily may be contaminated and in the absence of a strict survey disclosing conditions that would be protested if known, as remedial action can be suggested other than pasteurization.

While Dr. Child questions the mortality rate of 14.3 accredited to Kansas City by federal health authorities, the rate could be established or disproved through the simple procedure of attention to records, and the need of a health survey is so obvious as to be other than debatable. Let's have the survey.—*Kansas City Post*.

THE United States Civil Service Commission announces the following open competitive examination: Applications for the positions of medical officer, junior grade, medical officer, grade A, and medical officer, grade B, will be rated as received until December 30. The examinations are to fill vacancies in the Indian Service, the Coast and Geodetic Survey, the Panama Canal Service, the Public Health Service, and the Veterans Bureau, at entrance salaries ranging from \$1,680 to \$3,000 a year.

Appointees to position in the Indian Service will be allowed quarters, heat, and light, free of cost. Appointees to positions in the Coast and Geodetic Survey are allowed \$2 a day for subsistence in addition to the basic salary.

The eligibles resulting from these examinations will be placed on registers and certified according to their qualifications in the following branches: General medicine and surgery (junior and A grades only), tuberculosis, neuro-psychiatry and psychiatry, bacteriology (advanced), pathology, epidemiology, Public Health practice, industrial medicine and hygiene, and child hygiene.

Competitors will be rated on their education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

THE Southeast Missouri Medical Association held its 48th semi-annual meeting at Cape Girardeau, October 21 and 22. Drs. A. H. Hamel, W. D. Black, Ernest Sachs and R. A.

Woolsey, all of St. Louis, were on the program. A report of the meeting will be published in another issue of the Journal.

At this meeting resolutions were adopted extending the Association's sympathy to the family of the Honorable C. D. Mitchell, member of the legislature from Mississippi County, who was killed in an automobile accident October 19, and expressing regrets for the loss sustained by the medical profession and the community by his death. The resolutions follow:

WHEREAS, The Honorable C. D. Mitchell, present representative of Mississippi County in the Missouri legislature, came to a sudden and untimely death, due to an automobile accident on the 19th instant, and

WHEREAS, Mr. Mitchell was well and favorably known throughout Southeast Missouri for his staunch citizenship, his upright character, his civic interest and his marked ability, and

WHEREAS, he has served the county and state with an unswerving fealty and fidelity as a legislator, and

WHEREAS, pertaining to progressive legislation on all public health questions of a safe, sane and reasonable character, his interest and activities were uniformly constant, unstinted and unrestrained, therefore, be it

Resolved, That the members of the Southeast Missouri Medical Association, in session at Cape Girardeau, Missouri, October 22, 1924, do now, individually and officially express our regrets in the loss of Mr. Mitchell to Southeast Missouri; and, furthermore, we desire to express our profound sympathy to the bereaved wife and daughter, and to the immediate friends and relatives; and, the Secretary of this Association is hereby requested to mail a copy of these resolutions to Mrs. Mitchell and daughter, and to their home paper, the East Prairie *Eagle*, at East Prairie, Mo.

BOOKS FOR LEISURE MOMENTS

*Reading with discrimination broadens the mind
and strengthens the mental grasp*

As soldier, sailor, scientist, author, or lecturer, Dr. Richard L. Sutton always puts his whole heart and soul into every task he undertakes, and this charming little book "An African Holiday" (C. V. Mosby Co., St. Louis), descriptive of his expedition to Africa, made in the interests of the Department of Natural History, University of Missouri, is no exception.

The writer does not wait until the jungle is reached before commencing his narrative, but in a humorous manner tells of his experience in chaperoning a small cargo of elephant guns and ammunition through France, and of the

reception accorded him by the civil and military officials of that war weary land.

The party, which consisted of the author, his brother, Dr. W. P. Sutton and Alan Black, their white hunter, together with a hundred native porters and staff men, spent two months in the interior of the Dark Continent and encountered everything in the way of game, from dik-dik to elephants.

I cannot refrain from quoting the Poetess Laureate of Oklahoma, who, after she had been almost breathlessly carried through an illustrated lecture on the author's African adventures, dashed off the following:

There once was a doctor of skin disease fame
Who grew weary of skinning, and said to his Dame:
"Shooting at sparrows is awfully tame,
I'll step over to Africa, and shoot some BIG GAME."

Now this doctor is also much noted for speed,
No sooner the thought, than he's doing the deed;
So he at once started buying the things that he'd need,

And hardly took time off to sleep, or to feed.

He bought blankets, and neckties, and knives, and
to these

He added some dope for mosquitoes, and fleas;

He bought handkerchiefs, hunting coats, hats and
puttees,

And last, but not least, he bought B.V.D.'s.

"For," said he to his wife, "Think how nifty they'll be
When the thermometer reaches two hundred and
three;

And, besides, I can easily shin up a tree
When a big, hungry tiger is about to get me."

* * *

He reached, one fine morning, the African shore,

And, grabbing a gun, to the jungle he tore;

He shot elephant, lion, and tiger, galore,

And he'd be shooting yet, but there ain't any more!

In Africa now, a child, I have read,
Can gambol and play where the lions once fed.
But this thought keeps coming back into my head,
Did the man really shoot 'em, or just talk 'em dead?

The book is profusely illustrated with more than one hundred photographs made by the author, and attractively bound in blue silk cloth.

L. B.

OBITUARY

J. HENRY AMERLAND, M.D.

Dr. J. Henry Amerland, whose span of life extended from August 1, 1855 to June 4, 1924, contributed much to the progress of the St. Louis Medical Society.

As treasurer of the Society from 1907 to 1912, as its president in 1912, and again as councilor 1913 to 1916, and later as a member of various committees he always took a very active part in its affairs. The compiling of the results of a survey of the local medical profession in which he was engaged at the time of

his death are records that will be of great value for many years to come.

All this tedious and exacting work was done at considerable sacrifice to his practice, and without the least hope of any personal gain except the respect of his colleagues.

Born in St. Charles County, Missouri, he received his early education in the local schools, and in Watertown College, Wisconsin. Later he attended the University of Ann Arbor, Michigan, from which institution he received his medical degree in 1883.

After seven years of practice in Florence, Missouri, he supplemented his medical education by a stay of three years in the University of Vienna.

Here he made the most of his opportunities. In his thirst for knowledge, and devotion to the Clinics, he displayed that persistent and methodical way of working and thinking which characterized his every effort during the rest of his life.

As a member of the staff of the Lutheran Hospital and also in his private practice he was thoroughly devoted to his profession. Uncomfortable unless he understood his patient he would not rest until by consultations, and persistent study on his part the diagnosis was made as clear as it was possible to make it. In other words his patients always received a square deal. This gave him a high place in the esteem and confidence of the public and the profession.

Dr. Amerland died at the Lutheran Hospital, the scene of his greatest activities. The end came suddenly, when it was least expected, and while he was apparently recovering from an operation performed several days before.

Dr. Amerland will be greatly missed by his many friends, and especially by the society members at whose deliberations he was one of the most regular attendants.—H. L. N., *Bulletin*, St. Louis Medical Society.

FRANK ADAMS GLASGOW, M.D.

"Integer vitae, scelerisque purus."

Dr. Frank A. Glasgow and the writer of this notice were fellow-students at the old St. Louis Medical, "Pope's", College. While the years that have passed since those boyish days saw his rapid growth in knowledge and ability, yet the man in the full vigor of middle life, and the invalid declining to his grave remained one and the same as the stripling I first met forty-eight years ago almost to a day. Men mature, do and suffer many things, add to their stock of information and experience, and when fashioned of the right materials, ripen through time and human contacts, but the man himself, and the moral fiber and constitution present in the

antenatal plasm, do not change. And so it was with Frank Glasgow. The qualities of high principle, unswerving rectitude, unflinching courage, and unwearying industry, coupled with a brilliant mind apt at originating novel ideas, which a rare mechanical ability could execute, united to form an individuality which stood forth from the common herd, and which once met could never be forgotten. These characteristics were his as a youth, as a man, and remained his to the end. To these were joined a contempt which he took no pains to conceal for all that was vile and false, for all equivocation, compromise, opportunism, and all hearkening to counsels of mere expediency, and only a little less for many of the lesser things of life after which many men strive. He cared little for personal appearance, fashion, dress, passing honors or distinctions, or the impression he produced on those about him. His own standards were high, and to these he conformed, recking nothing of others' judgments. He was an apostle of high thinking and plain living.

While a man possessed of such definite views and fixed principles, of necessity, and not rarely, clashed with those who could not always see with him, eye to eye, yet his obvious sincerity and purity of purpose ensured the respect of his opponent. To the weak and suffering, to those who needed his help, he was ever kind and benevolent, forgetting both labor expended and remuneration.

Dr. Glasgow was the son of William Glasgow, Jr. His mother, Sarah Louisa Lane, came of a family eminent in both the civic and medical history of St. Louis. He was born in this city on October 18, 1854, and received his A. B. from Washington University. He graduated from the St. Louis Medical College in 1878, and after pursuing post-graduate studies at Vienna and Strassburg, entered the practice of his profession in his native city. For some years he held the post of Clinical Professor of Gynecology at Washington University, and for many years was Senior Gynecologist at the Mullanphy Hospital, to which institution he remained loyally attached to the end. While a specialist, he preserved a lively interest in all medical progress and in general science. He was fond of travel and a great hunter and fisherman, but took little interest in other sports. Dr. Glasgow never married. He died on August 22, 1924.

When nature made Frank Glasgow, she broke the mold. J. G.—*Bulletin*, St. Louis Medical Society.

JEWEL AUBURN BRYANT, M.D.

Dr. Jewel A. Bryant, of Clarksburg, a graduate of the St. Louis College of Physicians

and Surgeons 1911, died September 9, 1924, at St. Mary's Hospital, Jefferson City, of burns received when a gasoline stove exploded. He was 45 years old. Dr. Bryant was a member of New Madrid County Medical Society and a Fellow of the American Medical Association.

JOSEPH MEINHARD, M.D.

Dr. Joseph Meinhard, of St. Louis, a graduate of Marion-Simms College of Medicine (now St. Louis University Medical School) 1897, died September 10, 1924, aged 48 years. Dr. Meinhard was a member of St. Louis Medical Society and a Fellow of the American Medical Association.

MISCELLANY

WOMAN'S AUXILIARY

MEETING OF THE EXECUTIVE BOARD OF THE WOMAN'S AUXILIARY

The first meeting of the Executive Board was held in St. Louis, October 8, 1924. The president, Mrs. G. H. Hoxie, of Kansas City, addressed the Board as follows:

When the State Auxiliary was organized and I saw facing us the necessity of planning public health education for the counties, I felt the first step must be to find out what the organized medical profession and public health authorities considered the next step in public health work.

Everywhere and always this question has brought the one answer: "The solution of the public health problem lies in the district (preferably county) health department, the so-called County Health Unit. And because there are not enough trained medical directors and public health nurses to supply the counties these local units must be under the teaching and training, for a time, of a state health department, equipped with technical men to carry on the county supervisory work.

If we examine this plan we find that there is not a phase of public health work which cannot be better, more quickly and more economically done under the County Health Unit plan than it is now being undertaken in most counties by all the agencies, private and social, which are interested, each working on its own problem in its own way regardless of the work of others.

Consider first the matter of vital statistics. We all know that birth records are the first step in infant welfare work. The infant death rate is the number of babies which die under one year of age out of every thousand born. An accurate record of births and deaths with causes of death is necessary in order to measure the success or failure of baby saving work and is the only possible guide for the amount and character of future child welfare work. Further, since education of mothers to the proper care of their babies is among the most necessary work for cutting the infant death rate, full and accurate birth registration is necessary, because you cannot educate a mother until you can locate her. Yet Missouri has not been admitted to the United States census birth registration area, which fact classifies us as being less than 90 per cent. accurate in our birth registration. Here, then, is a fundamental thing which needs correction. But it is a thing which our organization cannot do. It cannot be corrected by

private agencies alone. In this matter of birth registration we are brought squarely up to the need of an efficient and effective Bureau of Vital Statistics in our state health department. Private agencies can undertake surveys and investigations to determine and prove that registration is incomplete; they can educate a part of the mothers to the necessity of birth registration; but accurate birth statistics depend finally upon enforcing the laws requiring doctors and midwives to report cases.

How can we get such enforcement from the state health department? One of the questions I have been asking of doctors is, "why doesn't the state board prosecute doctors and midwives who do not report births?" and they invariably come back with the question, "where would the state board get any such prosecutions in any county? The doctors who are remiss would get mad and protest: the other doctors would pay no attention to the matter and the man in the state department who was responsible for the prosecutions would probably lose his job and nothing would be gained." I wonder if this is a fair statement. If it is, then one of the first things we as an organization should undertake is to educate the public to demand an enforcement of registration laws from the state health department and crystallize public sentiment to stand behind the state official who attempted such enforcement.

But how is such education to be brought about? We have learned in Kansas City that it cannot be done through the newspaper nor by talking before women's clubs. If such an educational campaign is to be put over it will have to be done by health workers who can and do come in personal contact with mothers who do not read newspapers nor join clubs. The mothers who are educated to the need of birth registration and to *expect* birth certificates, will "get after" their doctors and midwives if such certificates do not arrive. The district or county nurse is the solution of the problem of complete birth records.

Consider the general health conditions of Missouri as reflected in our death statistics as compared with other nearby states.

The average death rate for Missouri for the last four years, 1920 to 1923 inclusive, is 11.6; that for Minnesota for the same period is 9.8; that for Kansas, 10.5. This means that with a death rate as good as Minnesota's, we should have yearly 6,300 fewer deaths in Missouri; that with a rate as good as that of Kansas, we should have 3,850 fewer deaths each year.

Consider our death rate from specific diseases. The average death rate from tuberculosis for Kansas from 1920 to 1923 was 44; for Minnesota, 74; for Missouri, 94. In other words, if our tuberculosis death rate was as good as that of Kansas, 1,750 fewer people would die in Missouri annually from this disease. If it were as good as that of Minnesota, 700 fewer would die each year.

The typhoid rate is a revelation. For the five years, from 1919 to 1923 the Missouri average death rate from typhoid and paratyphoid is 10.9; Minnesota for the same period has an average of 2.8, Massachusetts, 3.8, Wisconsin, 4.5, New York, 5, Kansas 7.2.

Diphtheria statistics are equally disconcerting. Minnesota has an average rate for the last five years of 9.6, Kansas 14, Missouri 17.4. As such statistics as these picture Missouri conditions, there can be no doubt as to the necessity of preventive health work. But what shall be the method of attack? What should be done first?

One of the most valuable reports I have read is the Rockefeller Foundation Report on "Infant Mortality in New York City," published in 1921. It is

a study of results accomplished by infant life-saving work in New York City.

The report shows that when you bring about a change in conditions which reduce infant mortality, you at the same time improve health conditions for adults. And when you improve health conditions for adults you automatically improve conditions for children. It is impossible to fence off one field from the other. The two hang together. But the most important thing brought out by the report is this: During the thirty years from 1885 to 1914, the infant death rate of New York City dropped from 274 to 95. This was due to two things: In 1885, 80 per cent. of the births were reported, while now 98 per cent. are reported. The steady increase in birth registration lowered the infant death rate somewhat. But the greatest influence in bringing the rate down was that during this thirty-year period milk inspection was begun and progressed until in 1914 milk was graded and all milk not from tuberculin tested cows was pasteurized, two-thirds of the asphalt was laid, effective cleaning and sprinkling was introduced, garbage and refuse collection was improved, the number of surplus privies was greatly reduced, and housing conditions were markedly improved. During this thirty-year period of improvement of general sanitation the decline of the infant death rate was continuous and marked, *yet very little intensive or direct infant welfare work was done*. The conclusion drawn by the writer of the report is that control of water supply, sewage and refuse disposal, surface privies, manure piles, street cleaning and sprinkling, housing and parks, and milk supply should receive a broad and energetic support from infant welfare organizations. Good sanitation once established, then the further improvement of infant mortality rates will come only from intensive child welfare work, and in New York City this sanitation epoch from 1885 to 1910 has been followed from 1910 to the present time by a remarkable increase of child welfare work, and by it the infant death rate has been further brought down from 95 to about 70 or 75.

This principle seems to be accepted by all scientific public health men. And if we accept it we shall have to admit that in some of our public health efforts some of us have been getting the cart before the horse, when we have stressed intensive individual work where the surroundings were such that our work could have but meager results. I fancy there are spots in Missouri where the sanitary conditions are similar to those in New York City in 1885. There are spots in Kansas City that certainly are as bad. And in Kansas City a large part of our expensive health work is giving pitifully small returns because it is done against a background of insanitary conditions and bad housing conditions which are a disgrace to a modern city and which neither we nor the people we are trying to help can improve or control.

If we want proof of the soundness of this principle we can find it in a further study of the statistics of some of the nearby states. The average typhoid rate in Kansas for the five years, 1914 to 1918, was 16.1; the yearly average for the period 1919 to 1923 was 7.2. The sensational drop came in 1919. The rate in 1918 was 16.6; in 1919, 7.3, and the rate has remained there. The explanation given is that the Kansas Board of Health began the work of improving the water supply in the state in 1915. By 1919 it was well enough along to produce this result. Michigan's drop from 12 to 9 and then to 7 during 1919 to 1921 is explained by the state sanitation department's work at the Michigan resorts. (Along with this sort of work in progressive states goes the improvement of milk supply, the isolating of typhoid carriers, and education to prevent contact spreading of disease.)

How can this fundamental work of the improvement of general sanitation be brought about in Missouri? It has to come from a realization of the need of it on the part of the majority of the people in each community. If we can spread the knowledge of the necessity for personal hygiene we shall soon have the demand for community sanitation. It always goes back to the problem of bringing education to the individual. And again this can be most quickly and effectively done by the district nurse. And when a district is intelligent enough to ask for it, the state should be in a position to help in improvements which require direction by engineers and technically trained men.

In those communities where this fundamental work has been done; where the water and milk are safe, where sewage disposal is correctly carried out, where refuse is so treated as not to serve as breeding places for flies, where housing is adequate, etc., intensive welfare work will bring immeasurably greater results.

Again, there is not a single type of work for the reduction of communicable disease or for the promotion of health and well-being which does not depend for its success upon the education of the individual. The Schick test, typhoid inoculation, vaccination against smallpox, weighing and measuring of children, correction of physical defects, education of heart cases, —for the success of all of these we come back to the necessity of local, personal and not long distant educational work.

Consider the work of examinations of school children and children of pre-school age. In 1919, a study was made of a group of 17,154 Missouri children. Fifty-four per cent. were found to have decayed teeth, 38 per cent. had enlarged tonsils, more than a quarter were mouth breathers, more than 16 per cent. had defective vision, and 11 per cent. had adenoids. No report was made as to the number of corrections of defects which were brought to light by these examinations. But a study made in Philadelphia of 3,133 children who had been found to have physical defects indicates what probably happened. The Philadelphia children were divided into two classes. In one class the mothers were simply notified of the defects and advised to have medical attention given their children. In the second class, there was follow-up work done with the mothers, instructing them about the wisdom of having the defects corrected. The following table shows the percentage of corrections in the two groups:

<i>No follow-up work.</i>	<i>Follow-up work by nurse.</i>
All defects, 24% corrected	89% corrected
Teeth, 20% corrected	92% corrected
Eyes, 26% corrected	80% corrected
Adenoids, 14% corrected	73% corrected
Tonsils, 18% corrected	65% corrected

But if local health work—county health work—is to be successful it must be done by trained people. The ordinary doctor and the ordinary nurse are not prepared for public health positions. State subsidy, which will permit state control over county work is, at least for the present, essential to success.

To meet the Missouri needs, therefore, the essentials seem to be:

First: Public health activities should be under the direction and control of trained public health workers; that lay organizations and women's clubs are needed in public health work, but that they should supplement and work under the direction of trained state and county health departments, where such exist.

Second: That the first essential for the improvement of health conditions in Missouri is a strong

central state health department; the development as quickly as possible of county full-time trained health workers; and that aid and direction from the state health department should be available for all counties which ask for it.

Third: That these fundamental requirements can be met only by, First: A State Health Department with all necessary divisions manned by scientific men trained for their specific jobs. Second: Adequate appropriations for state health work. Third: Tenure of office for technical scientific workers in the State Health Department. Fourth: Public health education in the counties, so that the rural communities and small towns may come as quickly as possible to see the value of properly conducted local public health work.

The Board unanimously endorsed these recommendations.

The following program of work was adopted:

First. Active vigorous support of the program of the state health department, which at the present seems to be the building up of the following departments:

Bureau of Vital Statistics.

Division of Child Hygiene.

Division of Rural Sanitation. (County health unit.)

Division of Venereal Disease.

Division for Control of Communicable Disease.

Division of Sanitary Engineering.

Second. Active work for an adequate appropriation for the state health department so that as fast as counties are educated up to the idea of asking state aid and direction in improving their sanitary conditions and establishing health units the state department can meet the requests.

Third. Immediate action to secure in the coming administration, whoever is elected, a definite stand against political appointments for technical positions; to take immediate steps to get, if possible, assurance from both candidates for governor that the next administration will assure tenure of office for scientific and technical appointees.

Fourth. Stimulate every County Auxiliary to study its own county health conditions; to educate the residents of the county to the wisdom of calling on the state to help remedy conditions; and if the state is called in to diagnose the county case and propose remedies, to make the state program for the county the Auxiliary program, and work wholeheartedly with the state department to put it into effect.

The following recommendations were presented by the legislative committee:

First: That each county shall appoint a chairman of legislation who shall serve as a member of the State Legislative Committee. That there shall be an Executive Committee of the Legislative Committee to be formed of representatives from the five largest cities of the state.

Second: That the Woman's Auxiliary endorse and assist in passing any legislation suggested by the State Medical Association.

Third: That the county organizations be asked to interview their candidates for the state legislature on their stand on public health.

Fourth: That the Woman's Auxiliary endorse adequate appropriation for the State Board of Health for the Sheppard Towner Act.

A full account of the proceedings will appear in a later issue.

Notes of Auxiliary Activities

In the Jackson County notes in the September JOURNAL, the names of Mrs. Andrew McAlester,

of Kansas City, as a member of the board, and of Mrs. John Hayden, of Kansas City, as corresponding secretary, were omitted through an oversight.

Mrs. E. T. Hornback, of Hannibal, has been appointed by Dr. W. H. Hays, President of the Marion County Medical Society, to organize the Woman's Auxiliary of Marion County.

One of the out-of-town presidents who a few months ago had the misfortune to be burned out of house and home has now the good fortune to be shortly moving into another home. In spite of this fact she writes: "I shall be down on the early train that puts me in St. Louis about seven o'clock in the morning. I think the conference will be most helpful and the provision for us to view the Veiled Prophet's Ball a most happy thought. Even if I am ready to move things can wait one day longer."

The following notes have come to the Chairman of Organization:

Buchanan County

Mrs. J. F. Owens, of St. Joseph, President of the Buchanan County Auxiliary, sends in the following report:

At last we can report that we have organized our auxiliary in Buchanan County the afternoon of September 16. The weather was threatening but we have 33 women enrolled and many of those who could not be there have signified their desire to become members. All those who attended the meeting were enthusiastic and I am sure our auxiliary will be a success. I am planning to attend the conference in St. Louis, October 8, as I feel we will get much from it. We selected the first Tuesday until the first of the year for our meetings.

Cass County

The Woman's Auxiliary of Cass County was organized at Harrisonville, September 11. Ten of the eligible women of the county were present and took part in the organization. Dr. W. A. Clark, President of the Missouri State Medical Association and Dr. E. P. North, President of the State Board of Health, were in town to attend the County Medical meeting and addressed the women on the need and value of the Woman's Auxiliary. The following officers were elected: President, Mrs. M. P. Overholser, Harrisonville; Vice-President, Mrs. A. H. Baldwin, Pleasant Hill; Secretary, Mrs. R. M. Miller, Belton; Treasurer, Mrs. J. S. Triplett, Harrisonville; Committee Chairmen: Education, Mrs. D. S. Long, Legislation, Mrs. H. A. Brierly, Peculiar; Membership, Mrs. T. W. Adair, Archie; Sociability, Mrs. W. L. Deirs, Pleasant Hill.

We adopted \$2 as annual dues.

Clay County

Mrs. W. H. Goodson, of Liberty, sends in the following report: Last Thursday afternoon, at Kearney, we organized our Woman's Auxiliary and elected the following officers: President, Mrs. W. H. Goodson, Liberty; Vice-President, Mrs. Clark, Excelsior Springs; Vice-President, Mrs. Rowell, Kearney; Vice-President, Mrs. Tadlock, Holt; Vice-President, Mrs. Hill, Smithville; Secretary-Treasurer Mrs. John J. Gaines, Excelsior Springs; Corresponding Secretary, Mrs. F. H. Matthews, Liberty; Advisory Committee member, Mrs. J. H. Rothwell, Liberty.

The constitution and by-laws were adopted and we discussed a number of plans for interesting programs.

After the meeting we had a bountiful picnic dinner which the women and their husbands enjoyed under some big shade trees. For several years our Clay County Medical Society has been inviting their wives

to meet with them once every two months and after dinner the men have their program and the women a social hour.

Knox County

Mrs. M. E. O'Connor reports that the Knox County Medical Society and the Auxiliary held a very successful joint meeting September 21. The music was furnished by the Auxiliary. Dr. W. W. Duke, of Kansas City, addressed the doctors and about 100 men and women were present from adjoining counties. Several of the visiting guests gave short talks. We had a basket dinner on the lawn of the Country Club which was such a success that we have promised ourselves to repeat the experiment. We are hoping to send one of our members to attend the conference in St. Louis on October 8.

While from over the State come such encouraging reports of the Woman's Auxiliary organization meetings as the above, the following letter of a different character from one of the interested women, shows plainly that the field for constructive work is not a barren one:

"As to my report from our county, I feel nothing can be accomplished. There are eight or nine women eligible for membership in the Auxiliary; however, they are widely scattered and for months of the year are separated by almost impassable roads. We have no hard roads in the county. This means horse back riding in the mud up to the horse's knees much of the time if one wishes to venture forth. The County Medical Society is also handicapped by this and do not try to meet even during the winter. I have been thinking this over and wondering what could be done for the county doctor and incidentally his wife. Many women in this district are welcoming the idea of direct communication and personal touch with other women similarly interested which this organization affords."

The real answer to the above which immediately comes to mind at this particular time, is the slogan, "Lift Missouri out of the Mud." The lack of possible communication in certain parts of the state should be viewed in its relation to the health of the people as well as from consideration of the state's material welfare.

Scotland County

The Secretary from Scotland County sends the following report: Our organization meeting was held September 8, and we elected officers as follows: President, Mrs. P. M. Baker, Memphis; Vice-President, Mrs. M. F. Jorgson, Gorin; Secretary, Mrs. W. S. Petty, Memphis; Treasurer, Mrs. A. E. Platter, Memphis.

PREVENTION OF POSTOPERATIVE HERNIA.—A muscle-splitting incision should be used when possible. In long incisions muscle fibres must not be sacrificed needlessly, and the motor nerves must be saved. The fascia is the strongest structure in the abdominal wall and it is very essential to close it properly. It is frequently under tension and unites more slowly than muscle tissue; for this reason it is necessary to overlap each layer separately. When closure under tension is unavoidable, the patient's shoulders should be kept in a semi-reclining position and the knees elevated on pillows (the "jack-knife" position) for a week after operation. Tension or stay-sutures are valuable to prevent strain on the fascia stitches. A gain in weight after operation, especially in obese subjects, should be avoided because it increases intra-abdominal tension and weakens the abdominal wall. The use of an elastic belt checks the tendency to rapid accumulation of fat.—LEIGH F. WATSON, *Northwest Medicine*, April 1, 1924.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

- Charlton County Medical Society, December 13, 1923.
- Camden County Medical Society, January 17, 1924.
- Madison County Medical Society, January 19, 1924.
- Cooper County Medical Society, January 19, 1924.
- Platte County Medical Society, January 22, 1924.
- Morgan County Medical Society, January 23, 1924.
- Cape Girardeau County Medical Society, January 24, 1924.
- Clark County Medical Society, February 11, 1924.
- Dent County Medical Society, March 5, 1924.
- Adair County Medical Society, March 5, 1924.
- Howell County Medical Society, March 11, 1924.
- Taney County Medical Society, March 20, 1924.
- Webster County Medical Society, March 20, 1924.
- Vernon County Medical Society, March 22, 1924.
- Schuyler County Medical Society, March 24, 1924.
- Atchison County Medical Society, March 25, 1924.
- Ray County Medical Society, April 2, 1924.
- Ralls County Medical Society, April 28, 1924.
- Christian County Medical Society, May 1, 1924.
- Pulaski County Medical Society, May 10, 1924.
- Carter-Shannon County Medical Society, May 16, 1924.
- Benton County Medical Society, August 19, 1924.
- Ste. Genevieve County Medical Society, September 17, 1924.
- Monroe County Medical Society, September 23, 1924.
- Scotland County Medical Society, September 30, 1924.
- Harrison County Medical Society, October 3, 1924.
- Crawford County Medical Society, October 7, 1924.

MEDICAL SOCIETY OF ASSISTANT PHYSICIANS OF STATE HOSPITALS

The Medical Society of Assistant Physicians of Missouri State Hospitals met at the Sanatorium at Mt. Vernon on October 10 at 9:30 a. m. The Society was called to order by Dr. D. H. Young, the president. The minutes of the last meeting were read by Dr. Viola Barrett of Hospital No. 3, Dr. B. T. Brown, the former secretary, having removed from the state, it became necessary to elect another secretary, and Dr. J. R. Bunch of Hospital No. 2, being nominated, was duly elected secretary for the unexpired term of Dr. Brown. The usual business being taken up, important matters were discussed along the line of advancing the Missouri hospitals in scientific equipment so that those under the care of these institutions might receive at the hands of the medical officers of these hospitals the best and most scientific care and attention. Among other matters under discussion was a request by resolution that a medical library in each of the institutions might be started and means provided for keeping these libraries up to date by additions from year to year. A committee was appointed by the president to take this matter up and discuss the same with the Board of Mana-

gers and Superintendents and take such steps as might be desirable to accomplish this much desired end. As the case now stands, none of the hospitals is equipped with a medical library and the members feel that an exhaustive library might be created eventually in each hospital by starting with a comparatively small outlay for medical books which could be added to year by year, and in such way stimulate the study of psychiatry and nervous diseases among the members of the medical staffs of each of our hospitals. After the close of the business meeting we were most royally entertained by Dr. J. W. Bruton and estimable wife at a dinner which was indeed sumptuous and pleasing. Indeed there was much of a social nature at this meeting and Dr. and Mrs. Burton, Dr. and Mrs. Loveland and Dr. L. A. Arnett of the medical staff were untiring in their efforts to make this meeting the most profitable, interesting and entertaining and we are sure that all feel that they were successful.

Dr. G. A. Johns, Health Supervisor, was present and took part in our proceedings and added much to the meeting in every way. Col. W. P. Fulkerson, President of the Board of Managers, also made us all happy by being present and added much to the interest of the occasion and meeting. Both of these gentlemen by their wise counsel and aid have had a large part in making the organization a success and backed by the several superintendents, we are building a Society that will surely be worthwhile. While these social and business features were pleasant and agreeable, the scientific papers read and discussed were of more than usual interest. The paper on the "Differential Diagnosis of Incipient, Moderately Advanced and Advanced Pulmonary Tuberculosis," was of great interest and elicited much discussion. All the members present took part in the discussions. It would appear that there are no very definite and distinct signs of incipient tuberculosis as auscultatory signs, pectoriloquy, whispering voice, transmitted voice, other breath sounds are not always present and if so are not sufficient upon which to base a diagnosis. The X-ray does not always reveal the disease in the early stages. Rigidity of the muscles of the chest wall and intercostal spaces is not a sure or positive sign but with temperature morning and evening, increased above normal, loss of body weight, impaired appetite, lassitude with cough and expectoration, finding of the tubercle bacilli and correlation of these symptoms with other rational signs, the history of the case, exposure, etc., a diagnosis is usually an easy matter. Of course the advanced cases should not fail to be discovered by any of us.

Dr. L. A. Arnett read an admirable paper on "Treatment of Pulmonary Tuberculosis," which was generally discussed. The treatment seems to resolve itself into rest in bed (in cases with fever, however slight), proper nutrition, diet, fresh air, out of doors when possible, Cod Liver Oil, Beechwood Creosote, Fowler's Solution of Arsenic, separately or in combination when desirable.

Dr. J. J. Singer was to have presented a paper on "Pneumothorax" but was unavoidably absent, much to the regret of all present. Dr. J. W. Bruton, Superintendent, gave us the history of the sanatorium, which was founded some seventeen years ago and now has about three hundred patients and could have many more but the capacity of the institution does not admit of greater number.

One of the most interesting papers was by Dr. Paul F. Cole of Springfield, Missouri. He gave an X-ray demonstration which was much discussed and was highly interesting and profitable.

There were present by invitation, physicians from Springfield, Aurora, Mount Vernon and vicinity who took part in the discussions and helped to make this one of the most interesting and profitable meetings held by the Society.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met in Breckenridge in the Masonic banquet room at 1:30 p. m. September 17. Those present were Drs. G. S. Dowell, president; H. H. Patterson, M. L. Clint, Mrs. O. N. Thompson, L. J. Eads, L. M. Daley, J. E. Gartside, Tinsley Brown and Senator Frank B. Dorsey, M.D., of Keokuk, Iowa.

Minutes of July 24th meeting were read and approved.

The fact that contagious impetigo is widely scattered over the county, especially in the public schools, the same was thoroughly discussed as to prevention and cure.

Several clinical cases were brought before the Society for examination. They were examined and reports made by doctors selected for each case. Dr. Dorsey addressed the society in reference to his idea of conducting an appendectomy, especially in reference to his plan of always removing the appendix regardless of condition of suppuration. There appeared to be a variance of opinion as to the advisability of this plan in many conditions.

The discussions on different phases proved to be interesting and in all, the meeting was very good.

The resolutions drafted by the committee appointed at the last meeting to draft resolutions in reference to the death of Dr. Robert L. Mount of Polo, an honored member of our Society, were read and adopted. It was ordered that the resolutions be spread on the minutes of this Society, a copy sent to Mrs. Mount and one to the Journal of the Missouri Medical Association for publication. The Society adjourned to meet at Braymer, on some convenient date in October.

The following resolutions were adopted on the death of Dr. R. L. Mount:

Whereas, The Supreme Ruler has seen fit to take from our midst our esteemed brother member, Dr. Robert L. Mount a graduate of Ensworth Medical College, St. Joseph, Mo., 1891; Past President of the Caldwell County Medical Society; member of the Missouri State Association; Fellow of the American Medical Association and Member of Medical Corps, United States Army, World War, who died at the Christian Church Hospital, Kansas City, Missouri, June 11, 1924, therefore be it

Resolved, That the Caldwell County Medical Society takes this means of expressing to the bereaved wife and family, their deep sympathy, and to bring to them the assurance that we share with them their great loss.

Resolved, That we give assurance of the high regard in which Dr. Mount was held by the members of this Society, who recognized in him the skilled physician, the public spirited business man, the high-class American citizen, the supporter of every worthy cause, the loyal friend, the helper of the needy, a man who honored his profession and brought to all a full measure of helpful service.

Resolved, That these resolutions be spread upon the minutes of this Society and a copy sent to Mrs. Mount. Also a copy to Missouri Medical Society Journal. Committee: J. E. Gartside, L. M. Daley, B. F. Carr.

TINSLEY BROWN, M.D., Secretary.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY *September Meeting.*

The Cape Girardeau County Medical Society met in regular session on September 8, 1924, at Cape Girardeau with the following members present: Drs. Zimmerman, Cunningham, Shulz, Shelby, Yount, Howard and Wilson of Cape Girardeau, Drs. Vinyard, Hays, Seibert and Seabaugh of Jackson and Dr. W. K. Statler of Oakridge. Dr. Seibert and Dr. Howard were called away before meeting was called to order.

The meeting was called to order by Dr. Zimmerman.

Motion was made that minutes of last meeting be approved as printed in last bulletin. Motion carried.

There being no further business, the scientific program was then taken up.

The subject of a paper by Dr. E. H. G. Wilson was "The Importance of Recognizing Tuberculosis in its Incipency." This very interesting and instructive paper was discussed by all members present. Dr. A. E. Dalton was not present to give his part of the program which was a paper on "Treatment of Tuberculosis."

The subject of the Federal Government stopping the manufacturing and importing of heroin was discussed by some of the members and it was moved by Dr. Wilson that this Society protest against such legislation.

No further business appearing, the society adjourned and upon the invitation of Dr. Wilson retired across the street for refreshments.

D. I. L. SEABAUGH, Secretary Pro. Tem.

CALLAWAY COUNTY MEDICAL SOCIETY

The Callaway County Medical Society met in monthly session at Fulton, at the residence of the president, Dr. R. N. Crews, and as his guests, September 18, 1924, at 6:30 p. m. A social hour and an elegant supper was enjoyed by the members. Those present were Drs. Crews, A. D. Ferguson, J. B. McCubbin, J. G. Bruce, H. I. Owen, W. J. Bryan, H. R. Hill, M. O. Biggs, J. Y. Hume and M. Yates. After the customary routine business the scientific program followed.

This consisted of the reading of three case records from the Massachusetts General Hospital, discussing them, and then hearing read the discussion of Dr. Richard C. Cabot and E. L. Young, Jr., and then the postmortem findings. For sometime past the society has been making use of these case records, and finds the reading and discussion of them a source of much scientific value as well as very interesting to the members. We vary the program sometimes by using the case records of our own County Hospital, and also using some of the patients for clinical demonstration and discussion. Our society, though small, has been able to maintain a lively interest in its meetings. A vote of thanks was tendered the president for his hospitality.

MARTIN YATES, M.D., Secretary.

CASS COUNTY MEDICAL SOCIETY

The regular meeting of the Cass County Medical Society was held in the circuit court room at Harrisonville, Thursday afternoon, September 11, 1924. The meeting was called to order by the president, Dr. R. D. Ramey.

The first subject on the program was "Focal Infection of Peptic Ulcer," illustrated by lantern slides which was presented by Dr. R. L. Haden, of Kansas City. The doctor showed by his lantern slides how various focal infections in different parts of the

body may give rise to an infectious ulcer of the stomach.

The subject of "Acute Intestinal Obstruction," also illustrated by lantern slides, was the next subject presented to the society by Dr. T. G. Orr, of Kansas City. By charts and slides the doctor brought out clearly and fully the symptomatology of obstruction of the bowels, and in addition to the surgical treatment he outlined other important measures in the management of these cases.

Dr. Lindsey Milne of Kansas City, who was next on the program, favored the society with a very practical and interesting presentation of the subject of hypertension, enumerating many of the supposed causes of this condition. All of these subjects were discussed by a number of the physicians present.

Following the discussion of these subjects the physicians present were then well entertained by an able and interesting address by the president of the Missouri State Medical Association, Dr. W. A. Clark of Jefferson City. The doctor spoke of the work of the state organization, its aims and purposes, the importance of local county society work, and the methods adopted in his own home county in keeping up the interest of the physicians in their county medical organization. The doctor in his address mentioned particularly the splendid work which is being done throughout the state in the organization of the Woman's Auxiliary of the State Medical Association.

Following Dr. Clark's address Dr. Emmett North of St. Louis, president of the Missouri State Board of Health, favored the society with a very interesting, instructive and beneficial address, outlining the work of the State Board of Health, mentioning some of the various and numerous problems confronting the board, the limitation of its powers, and recommended various measures in the interest of public health and scientific medicine.

The application for membership of Dr. J. H. Fletcher of Cleveland, Mo., was reported favorably by the board of censors and the doctor was elected a member of the county organization.

On motion a rising vote of thanks was extended Drs. Clark and North and the physicians from Kansas City who contributed so ably to the program.

The names of the physicians present are as follows: Drs. W. A. Clark, Jefferson City; Emmett P. North, St. Louis; T. G. Orr and R. L. Haden, of Kansas City; J. T. Hornback, Nevada; W. G. Thompson, Holden; L. S. Milne, Kansas City; L. J. Schofield, Warrensburg; E. A. Hebner, Nevada; C. C. Conover and O. H. McCandless, of Kansas City; R. M. Miller, Belton; H. A. Brierley, Peculiar; W. F. Chaffin, Raymore; W. L. Viers, Pleasant Hill; C. C. Adair, Bailey, Texas; T. W. Adair, Archie; William R. Patterson, Warrensburg; C. L. Conrad, Pleasant Hill; R. D. Ramey, Garden City; J. S. Triplett, Harrisonville; H. Jerard, Pleasant Hill; D. S. Long, A. R. Elder and M. P. Overholser, of Harrisonville, and others whose names we failed to get on the record.

On this same day the Women's Auxiliary of the Cass County Medical Society was organized. Their meeting also was addressed by Dr. Clark and Dr. North. If this county is late in organizing, the women were assured they were starting out with an uncommonly large percentage of those eligible to membership. The auxiliary here as elsewhere will no doubt prove its usefulness in cooperating with the medical profession in promoting sanitation and other public health measures as well as in promoting a better acquaintance among doctors' families.

M. P. OVERHOLSER, M.D., Secretary.

FOURTH DISTRICT MISSOURI MEDICAL ASSOCIATION

The Fourth District Missouri Medical Association, comprising Grundy, Mercer, Putnam and Sullivan Counties, held its meeting at the Elks Club at Trenton, September 26, 1924, as guests of the Grundy County Medical Society. The scientific meeting was called to order at 1:30 p. m., with about seventy-five doctors present. Visitors included the following: Drs. Jacob Geiger, St. Joseph; H. S. Forgrave, St. Joseph; Floyd Spencer, St. Joseph; H. Delameter, St. Joseph; J. R. McVay, Kansas City; Emmett P. North, St. Louis, and R. L. Russell, Jefferson City.

There were several interesting papers on the program, the first being "Alleviation of Surgical Menopause by Ovarian Transplants," read by Dr. Harrison S. Forgrave, of St. Joseph. A paper on "Hand Infections," was read by Dr. Ben L. Myers, of Kansas City. This paper was illustrated by lantern slides as was the paper on "Heart Diseases," which was read by Dr. C. C. Conover of Kansas City. Other papers of interest were read by Dr. Ida May Nulton of Livonia, and the Councilor of the Fourth District, Dr. G. M. Bristow, of Princeton.

A banquet was served at the Elks Club in the evening, and about one hundred attended. Dr. J. F. Fair, of Trenton, was toastmaster, and both doctors and their wives enjoyed the occasion and the repast. Following the banquet, members, wives and visitors assembled in the High School auditorium where Dr. Emmett P. North, president of the State Board of Health, gave a lecture to the public on Public Health.

The social program was not an uninteresting one. The wives of the visiting doctors were entertained by the wives of local doctors in the afternoon at a tea at the Riverside Country Club. There was a musical program and other forms of entertainment during the afternoon.

KNOX COUNTY MEDICAL SOCIETY

The Knox County Medical Society, together with the Women's Auxiliary, met in the club house of the Baring Country Club, Monday, September 22, 1924, with the following present: I. R. Northcutt, W. W. Owen, T. A. Campbell, H. H. St. John, James Keane, W. F. O'Connor, W. E. Luman and George S. Brown. About 20 members of the Auxiliary were also present. The medical societies and their auxiliaries of Clark, Scotland, Schuyler, Lewis and Adair Counties were invited, the following members responded: Drs. P. M. Baker, Sr., Baker, Jr., Parrish, Platter, Shacklett, Memphis; Drs. Martin, Ellis, Grimm, Callison, Hanks, Kirksville; Dr. J. C. Brown, Lewistown, with a large number of their auxiliary. Drs. Walter Stevenson and Ralph McReynolds of Quincy were present. After a short address of welcome by Mrs. W. F. O'Connor, President of the Auxiliary, and some musical numbers, the president, Dr. George S. Brown, introduced the honor guest, Dr. W. W. Duke, of Kansas City, who delivered a splendid lecture on "Allergy." This was discussed by those present.

A musical program was then given, closed by all singing "America." After adjournment all present were invited to the spacious west porch, there to enjoy a wonderful picnic supper, which had been prepared by the different societies. This was a pleasant and instructive meeting and we hope to have others during the year.

F. L. LUMAN, M.D., Secretary.

RANDOLPH COUNTY MEDICAL SOCIETY

The Randolph County Medical Society held its regular meeting in the library at Huntsville, Tuesday evening, October 14, with the following members present: Drs. G. O. Cuppaidge, P. C. Davis, C. H. Dixon, T. S. Fleming, L. E. Huber, F. L. McCormick, O. K. McGee, R. A. Mitchell, all of Moberly; W. E. Johnson and C. C. Smith, of Madison; D. A. Barnhart, G. G. Bragg, R. G. Epperly, and O. F. Hatton, of Huntsville.

The regular business of the Society being attended to a very interesting and instructive paper on "Local Infection," was read by Dr. C. C. Smith. The topic was then discussed in an intensely interesting manner by each of the physicians present.

At the close of the scientific meeting the Society was invited to partake of refreshments at the Christ Cafe, where a most delicious and appetizing luncheon had been prepared for them. The cafe was very prettily decorated with autumn leaves, pumpkins, corn, and orange and yellow crepe paper, all arranged in a very artistic manner. A plate luncheon was served consisting of sandwiches, pickles, celery, pumpkin pie with whipped cream, coffee, mints, salted almonds and to finish with, cigars were passed around.

ST. LOUIS COUNTY MEDICAL SOCIETY

Meeting of June 11, 1924.

The regular monthly meeting of the St. Louis County Medical Society was held in the Directors' Room of the Webster Groves Trust Co., June 11, 1924.

The meeting was called to order by Dr. Clyde P. Dyer, the president, at 3 p. m.

The revised Constitution and by-laws were read and adopted as revised, and one hundred copies ordered printed by the A. M. A. for distribution among the members of the society.

Dr. James R. Clemens, a member of our society, read a very interesting paper on "Hilus or Bronchial Gland Tuberculosis in Children." Discussion of the paper by Drs. Sutter and Dyer followed. Both the paper and the discussion were very instructive and interesting and all present profited greatly by having heard them.

Dr. Garnett Jones moved that the society give Dr. Clemens a rising vote of thanks, which was regularly seconded and carried.

Dr. Dyer presented a specimen of a small growth which had been removed from upper eyelid margin. Examination of same proved it to be an epithelioma.

Dr. Schudde, of Ferguson, informed us that the very interesting case of diabetes insipidus which he presented before the society on May 9 and June 12, 1923, had died.

The organization of the Ladies Auxiliary to this society was favorably discussed and it was decided to lend all possible assistance in perfecting a permanent organization.

It was regularly moved, seconded and carried that the meeting of July and August be suspended. There being no further business the meeting was adjourned.

Members present were as follows: Drs. C. P. Dyer, president; J. H. Sutter, W. F. Mitchell, J. R. Clemens, F. C. E. Kuhlmann, W. H. Townsend, J. A. Townsend, W. F. O'Malley, G. Jones, H. N. Corley, O. W. Koch, O. N. Schudde.

Meeting of September 10, 1924.

The regular monthly meeting of the St. Louis County Medical Society was held in the directors' room of the Webster Groves Trust Co., Wednesday afternoon, September 10, 1924. The meeting was

called to order by Dr. Clyde P. Dyer, president, at 3 p. m.

Those present were: Drs. C. P. Dyer, president; E. L. Fredericks, H. Miles, M. Baker, D. H. Hanson, C. A. P. Dunnivant, J. A. Townsend, A. W. Westrup, P. M. Brossard, O. W. Koch.

Minutes of previous meeting were read and approved.

A communication of the Southern Medical Association, concerning X-ray work in St. Louis County, was read.

The scientific program consisted of a very interesting and instructive paper by Dr. R. E. Wobus upon the subject of "Endocervicitis, Its Importance, Prevention and Treatment," and was discussed at length by Drs. Miles, Westrup, Dyer, Fredricks and J. A. Townsend. Dr. Westrup moved a rising vote of thanks to Dr. Wobus.

The entertainment committee which has charge of the annual dinner held on the evening of the regular December meeting are already planning a bigger and better dinner than ever before.

The summer outing of the Ladies Auxiliary at Lake Hill was attended by 36 members and guests and everybody had a good time swimming and dancing. The dinner was wonderful, consisting of fried chicken, home baked ham and everything that went with it. The ladies certainly did provide bountifully and the Medical Society members more than enjoyed it.

Having no other business the meeting adjourned.

Meeting of October 8

The regular meeting of the St. Louis County Medical Society was held in Webster Groves, October 8, with the following members present: Drs. Marshall Baker, F. C. E. Kuhlmann, Horine Miles, W. F. Mitchell, W. F. O'Malley, A. W. Westrup, all of Webster Groves; J. H. Armstrong, Glendale; L. W. Cape, Maplewood; C. A. P. Dunnivant, Kirkwood; C. P. Dyer and O. W. Koch, St. Louis; O. N. Schudde, Ferguson; J. H. Sutter, University City and J. A. Townsend, House Springs.

The minutes of the last regular meeting were read and approved. The secretary read a letter from Dr. Roy O. Sample, a member of this society who is now permanently located at San Antonio, Texas. The entertainment committee promised a complete report at the next meeting, as to the program, entertainment and place of our annual meeting, and election of officers, to be held in December.

Dr. Edwin C. Ernst, of St. Louis, read a very interesting paper on "The Control of Cancer and the Various Methods of Treatment." Discussions on this were made by Drs. Kuhlmann, Miles, Westrup, Armstrong and Dyer.

On motion, Dr. Ernst was given a rising vote of thanks for his excellent paper.

The Ladies Auxiliary is now holding regular meetings and the officers report good meetings and a fast growth.

OTTO W. KOCH, M.D., Secretary Treasurer.

BOOK REVIEWS

RACE HYGIENE AND HEREDITY. By Herman E. Siemens, M.D., translated and edited by Lewellys F. Barker, M.D. Cloth, 178 pp., illustrated. D. Appleton and Company, New York, 1924.

The principles of heredity which have become firmly established in the last few years form the basis of this book. It is written especially for those

who are interested in far-sighted planning for the future of races.

Doctor Siemens brings out clearly the distinction between the stock from which one comes, which is represented in the individual by his sex cells; and the actual individual who is the resultant of the action of environment upon his inherited capacities. From the racial point of view the individual is merely the temporary carrier of his hereditary stock.

The most important law of heredity for race hygiene is that changes in the individual have absolutely no effect upon the sex cells, so far as the transmission of these changes is concerned. In other words the effects of public hygiene, education, and training affect only the generation to which they are applied. They make no impress upon the race.

By what means then can the race be improved? It is quite true that variations in the germ plasm occur spontaneously, but there is no known way in which to induce or control such variations. The only other possibility of improvement lies in what Siemens calls fertility-selection, that is the production of a larger number of children of desirable stock. The author emphasizes that what is really accomplished by such selection is merely the segregation of lines which had previously been mixed with others to produce a heterogeneous population.

The writer agrees that the decline of the cultivated races of antiquity was due to a voluntary limitation of the birth rate, and that superior stocks in Europe are dying out for the same reason. In order to reverse this process the superior stocks must produce at least four children to the marriage. He recognizes that the chief reason for limitation of births among desirable stocks is an economic one. The remedy is to equalize the economic burden within the same occupational group of those who have many children and of those who have but few or none.

"The actual basis of race decay is not to be looked for in the difficulty in feeding and clothing a larger family but in the impossibility of clothing, feeding and educating several children in the same way as do those of the same occupational group who have only a few children."

The solution of the difficulty given by Doctor Siemens is applicable to German conditions and need not be given in detail. It has to do with an adjustment of tax, compensation and inheritance laws so that the penalties for having the third and fourth children will be removed. "Families will have two children anyway."

The most urgent requirement of race hygiene at the present time is the inclusion of the subject in the schools and universities. E. T. G.

CHEMICAL DYNAMICS OF LIFE PHAENOMENA. By Prof. Otto Meyerhof. Cloth. Price, \$3. Pp. 110, with charts. Philadelphia: J. B. Lippincott Company, 1924.

This is one of the monographs in experimental biology published under the editorial supervision of Jacques Loeb, T. H. Morgan, W. J. V. Osterhout. Others published are *The Elementary Nervous System*, by Parker of Harvard; *The Physical Basis of Heredity*, by Morgan, of Columbia; *Inbreeding and Outbreeding, Their Genetic and Sociological Significance*, by East and Jones, of Harvard; *Smell, Taste and the Allied Senses in the Vertebrates*, by Parker, of Harvard; *Biology of Death* by Pearl, of Hopkins, etc.

This volume is a reprint of a series of lectures delivered by Meyerhof, at Cambridge University, England. The language is exceedingly technical and practically unintelligible to anyone who is not working day by day in a modern physiological or biolog-

ical laboratory. This restricts the value of the volume very much, for if the material had been expressed in the language which was scientific a generation ago, the volume would be of great value to many physicians and teachers. Your reviewer cannot resist the impulse to remark that it is a pity that more workers and teachers do not have the gift of Osler to express themselves in non-technical, easily understood language.

Perhaps the most valuable chapter is that on the transformation of energy and muscle, because that subject is now being studied intensively by Crile of Cleveland, and the results are being published under the title, "Studies in Exhaustion." In the chapter before us it is the work of Hill, of Cambridge, that receives the greatest consideration and Meyerhof seems to accept the general belief that carbohydrate is the basis of muscle energy and that it is broken down into lactic acid. That is, fatigue is due to the accumulation of lactic acid. The value of the lactic acid at the point of saturation, beyond which the muscle cannot work seems to be 0.4 per cent.

The chapters on the physico-chemical mechanism of cell respiration and that on autoxidations in the cell open to one of vision a vista of the possibilities of these experimental investigations but they also call attention to the limitations of such studies and one feels after reading the chapter that he has come out "by the same door where in he went."

G. H. H.

GYNECOLOGY AND PELVIC SURGERY. For students and practitioners. By Roland E. Skeel, M. D., formerly associate clinical professor of gynecology, Medical School of Western Reserve University; member senior surgical staff: California Lutheran Hospital, Los Angeles. Second edition. 281 illustrations. Philadelphia. P. Blakiston's Sons & Co., 1012 Walnut St., 1924. Price, \$5.50.

The author has not attempted to discuss in detail his subject. The work is compact and concise. Under treatment he has described only those methods and operations which are generally accepted by gynecologists to be of value, hence it is a safe reference book for the student. With each chapter he has given many references to other books and articles. This is a valuable aid to the reader. It is strictly a manual, and as such, is an excellent book.

H. S. V.

MANUAL OF THE DISEASES OF THE EYE. For Students and General Practitioners. By Charles H. May, M.D., Director and Visiting Surgeon, Eye Service, Bellevue Hospital, to the French Hospital, to the Italian Hospital, N. Y., etc. Eleventh edition, revised. With 374 original illustrations, including 23 plates, with 73 colored figures. N. Y.: Wm. Wood and Company. 1924. 445 pp. Price, \$4.00.

Just a revision of the textbook with a few additions. This book is so well known by the general practitioner and student, as well as by the specialist, that I believe further description is unnecessary.

Every physician should have a copy in his library for quick reference.

J. F. H.

NEUROLOGIC DIAGNOSIS. By Loyal Edward Davis, M.D., Ph.D., in Surgery. Assistant Professor of Surgery, Northwestern University Medical School; Fellow of the National Research Council. Illustrated. Philadelphia and London: W. B. Saunders Company. 1923. 173 pp. Price \$2.00 net.

Dr. Davis attempts to fill a need much felt by a number of instructors in bridging the gap between neurological anatomy and the various diseases of the nervous system. The difficulty of getting students to visualize location and type of pathological pro-

cess present in the various neurological conditions is well known.

The book may be conveniently divided into two parts. In the first part of the book the nervous system is considered from the point of view of function, i. e., motility, sensation, the cranial nerves, and the sympathetic nervous system. Each of these subdivisions are briefly considered, only the high marks being touched upon. In the second section the author has collected a large number of case histories which are presented briefly with physical findings followed by a discussion summarizing the chief findings and giving the reasoning for the diagnosis. Throughout that portion of the book presenting case histories, a number of questions are asked the answers of which demand a knowledge of the anatomy of the nervous system.

As with most books on diagnosis the case histories do not leave any very permanent impression and will tend to be memorized rather than reasoned. In conjunction with most of the case histories diagrams of findings and location of lesions are supplied.

The book has a carefully arranged and adequate index.

S. I. S.

APPLIED PATHOLOGY IN DISEASES OF THE NOSE, THROAT AND EAR. By Joseph C. Beck, M.D., F.A.C.S. St. Louis: C. V. Mosby Company. 1923. With 268 original illustrations, including 4 color plates. 280 pp. Price \$7.50.

This book is unique in that it covers only cases actually encountered in the writer's own practice.

The presentation of the subject is a simple and straightforward explanation of the etiology, physiology, pathology and treatment of most of the usual and many of the unusual conditions met with in otolaryngological practice.

In unusual and borderline cases of oral and plastic surgery, probably few surgeons have had the experience that has fallen to the lot of Dr. Beck, which gives much authority to what he writes in these fields.

The book is profusely illustrated and contains many excellent radiograph and microphotograph reproductions.

Many of the surgical procedures are so well illustrated that details are shown step by step.

The book is not so serviceable for medical students but it is of inestimable value for the practicing otolaryngologist.

S. S. B.

ESSENTIALS OF ORAL SURGERY. By Vilray P. Blair, M.A., M.D., F.A.C.S., and Robert H. Ivy, M.D., D.D.S., F.A.C.S. St. Louis: C. V. Mosby Company. 1923. With 335 illustrations. 526 pp. Price \$6.50.

The stated purpose of the authors in their production of this new work is to furnish a suitable text for medical and dental students, and they also express the hope that it may prove of interest to the practitioner and general surgeon as well. Some parts of the work are largely condensed from Blair's *Surgery and Diseases of the Mouth and Jaws*, but this present volume has admirably succeeded in harmonizing two naturally interdependent subjects, although unfortunately too widely separated in their practical professional application, i. e., dentistry and oral surgery. It is common knowledge that the medical profession too frequently fails to comprehend the aid which his dental colleague might give, and likewise sound surgical technique is often not understood by the latter.

The subject matter has been admirably presented from both viewpoints, and the logical relationship of the various anatomical structures about the mouth

and jaws to each other, and the effects of their altered functions are stated briefly but concisely.

Another chapter deals briefly with the methods of diagnosis and others with infectious tumors and wounds, with special consideration to the effects on neighboring lymphatics.

The chapter on infections of the teeth and methods of dealing with them properly ought to be read by every physician as well as dentist.

Fractures of the jaw are presented in a more complete manner than I have ever seen in any one textbook and I regret that the authors omitted a description of one or two most effective simple methods of recent origin for maintaining in position those fractures near the angle where the ramus is pulled forward into the cheek.

The portions of the work dealing with neuralgia and anesthetics adaptable to oral work are also deserving of special comment. The articles dealing with congenital deformities and injuries requiring plastic repair are condensations of Dr. Blair's former works with which most of us are familiar. The finer details are omitted here but the fundamental principles of all subjects discussed are stated so concisely that the work as a whole is presented in a most interesting style, as well as affording a most valuable review of sound surgical principles in oral surgery. C. F. S.

ANESTHESIA. By James Tayloe Gwathmey, M.D., Anesthetist to the New York Skin and Cancer, Columbia and Peoples Hospitals; Fellow American Medical Association and the New York Academy of Medicine. With collaborators on special subjects. Illustrated. Second revised edition. New York and London. The Macmillan Company. 1924.

A new and revised edition of this book is greatly to be desired. Many questions which were debatable when the first edition appeared are now standardized. The administration of ether, local anesthesia, and spinal anesthesia have been reduced to well formulated rules. The advances in all these lines have been incorporated so that the book is wholly up-to-date.

Intravenous and rectal anesthesia, though not established procedures, receive full consideration. The new anesthetic, ethylene, receives careful and judicious consideration.

The book is exceedingly satisfactory and is a necessary part of every surgeon's equipment.

A. E. H.

LIFE INSURANCE EXAMINATION. Edited by Frank W. Foxworthy, Ph.B.; M.D., on the Staff of the Methodist Episcopal and City Hospitals. Cloth. Price, \$9. Pp. 738, with 156 illustrations. St. Louis: The C. V. Mosby Company, 1924.

In this single volume of 738 pages, Dr. Foxworthy and his collaborators have succeeded admirably in covering the large subject of life insurance examination.

In the preface the author modestly states that he hopes the book will be of interest to the medical director, the medical referee and the medical examiner. The reviewer wishes to add that it will be of extreme interest to every practicing physician because of the valuable information on diseases which render human lives substandard and affect directly their longevity.

The book has been so well planned that it has been possible for fifty authorities to contribute to the forty-eight chapters without the slightest overlapping of subject matter. All of the important problems of life insurance examinations have been discussed by men of prominence in that particular field,

making the book in reality a collection of excellent monographs.

Many of the chapters are accompanied by a complete list of references from the medical literature. It is very difficult to single out any one chapter to illustrate this but the following might be mentioned: "The Relation of the Agent to the Medical Examiner;" "General Instructions to Examiners;" "The Respiratory System;" "Tuberculosis;" "Heart and Blood Vessels;" "Focal Infections;" "Post-Operative Risks;" "Malignant Epithelial Neoplasms;" "Urinalysis;" "Army Service as an Insurance Problem;" "Insurance of Sub-standard Lines;" "Legal Aspects of Life Insurance Examinations;" and "Postponement in Disease."

There are many more such chapters of equal interest and importance but those mentioned serve to impress the wide scope of the book. There are 156 well chosen illustrations and graphic charts and many tables of statistics compiled by various large life insurance companies.

The book is very well balanced throughout and will be of extreme value to the medical examiner, not only as a textbook but also as an authoritative reference book. L. P. E.

GONORRHEA. By David Thomson, O.B.E., M.B., Ch.B. Edin., E.P.H. Cambridge. Honorary Pathologist and Director of the "Pickett-Thomson" Research Laboratory, St. Paul's Hospital, London. With contributions by David Lees, D.S.O., M.D., F.R.C.S.E.; Claude H. Mills, M.R.C.S.; Robert Thomson, M.B., Ch.B. Edinburgh; Kenneth MacLachlan, M.B., Ch.B. Edinburgh. London. Henry Frowde and Hodder & Stoughton, American Branch, 35 West 32nd St., New York. Price \$12.75.

This work is a complete treatise on the subject in all its phases. The historical and economic matter is of interest and is well worth reading at one's leisure. The subject of treatment is exhaustively discussed, in fact it is rather too voluminous for quick reference reading. The work is a creditable asset for any library. C. K. S.

STUDENTS' GUIDE TO OPERATIVE SURGERY. By Alfred T. Bazin, D.S.O., M.D. Assistant Professor of Surgery and Clinical Surgery, McGill University. Montreal: Renouf Publishing Company. 1923. 126 pp.

This monograph of Dr. Bazin's makes no pretense of being a textbook of operative surgery. It is simply a students' manual prepared for the purpose of aiding students to pass their examinations in operative surgery. As such it serves a useful purpose as it contains in small space the salient points of the most important procedures in surgery. For the purpose for which it is written it is to be commended. R. H.

EAT YOUR WAY TO HEALTH: A Scientific System of Weight Control. By Robert Hugh Rose, A.B., M.D., Instructor, Post Graduate Medical School, New York. New edition, thoroughly revised and enlarged. New York and London: Funk & Wagnalls Company. 1924. Price, \$2.00.

How to eat and why! This is the theme with variations that motivates most of the popular books on diet that have appeared in the past several years. The distinguishing feature of the present volume lies in the stress which it places upon the exact quantity and kind of food. There is a long series of diet lists arranged for those of proper weight who wish to maintain that weight as well as lists for weight increase and reduction. The complete menu for each meal over a two week period is given, the quantitative allowance of each article being stated

in detail. The author has even taken the pains to work out a separate series of menus for winter and summer fare. In view of the varied diet that is advised the principle of vitamin content is unnecessarily stressed. On the other hand the author implies that such factors as familial tendencies, body habitus and temperamental differences are of minor importance in the problem of the attaining of proper body weight. It would seem that in view of the fact that he was addressing a lay audience, Doctor Rose would be somewhat reticent as to his talents and ability, for in the preface of his book he states that "the information which I present . . . is the result of twenty years of study . . . Among the most valuable of my observations is the recognition of the frequent relation of excessive weight and high blood pressure . . . I have no indebtedness to acknowledge to any of the systems of weight reduction as they have appeared in text-books. They are for the most part of little scientific value." Is this another unrecognized genius? J. E. C.

THE TRUTH ABOUT MEDICINES

NEW AND NONOFFICIAL REMEDIES

RABIES VACCINE (HUMAN), PHENOL KILLED.—An antirabic vaccine (see New and Nonofficial Remedies, 1924, p. 306) prepared according to the general method of David Sempel. The product as sold contains brain substance, 2 per cent. and phenol 0.5 per cent. suspended in physiological sodium chloride solution. It is marketed in packages of fourteen vials and a syringe, and in a package containing 21 vials and a syringe. Jensen-Salsbery Laboratories, Inc., Kansas City, Mo. (*Journal A. M. A.*, 27, 1924, p. 1001.)

MEDICINAL DYES.—The dyes which are used in medicine may be divided into five classes: (1) the azo dyes of which scarlet red medicinal and scarlet red sulphonate are described in New and Nonofficial Remedies; (2) the acriflavine dyes, such as acriflavine, neutral acriflavine and proflavine; (3) the fluorescein dyes, usually combined with metal mercury such as mercurochrome-220 soluble and flumerin; (4) the triphenolmethane or rosaniline series, such as gentian violet, crystal violet, methyl violet and fuchsin, and (5) miscellaneous dyes, such as methylene blue, phenolsulphonaphthalein and tetrabromphenolphthalein. In order to obtain comparable results when employed clinically, dyes should be of constant composition. The triphenolmethane (rosaniline) dyes include fuchsin and the closely related violet dyes, gentian violet, crystal violet and methyl violet. Of these, gentian violet is the one that has been used chiefly in medicine. It is stated to have the property of great penetration; to be bactericidal also bacteriostatic in vivo toward selective organisms. Its chief use has been in the treatment of infections of the pleural cavity and of the joints. The intravenous use of gentian violet has also been proposed in staphylococcus septicemia, chronic cystitis, osteomyelitis.

GENTIAN VIOLET MEDICINAL.—A mixture of pentamethylpararosanine and hexamethylpararosanine chlorides. For direct application, a solution of from 1:500 to 1:1,000 may be employed; for instillation, a 1:10,000 solution. For intravenous use, 5 Mg. per Kg. of body weight, injected in 0.5 per cent solution has been used.

GENTIAN VIOLET IMPROVED MEDICINAL.—A brand of gentian violet medicinal-N. N. R. Coleman and Bell Co., Norwood, Ohio.

GENTIAN VIOLET MEDICINAL—"National".—A brand of gentian violet medicinal N. N. R. National Aniline and Chemical Co., New York.

INSULIN-STEARN'S QUADRUPLE STRENGTH.—Insulin-Stearns (See *Journal A. M. A.*, June 14, 1924, p. 1,937) marketed in 5 Cc. vials containing forty units in each Cc. Frederick Stearns and Co., Detroit.

SULPHARSPHENAMINE-SQUIBB, 1 Gm. Ampules.—Each ampule contains sulpharsphenamine-Squibb (see New and Nonofficial Remedies, 1924, p. 68) 1 Gm. E. R. Squibb and Sons, New York.

SULPHARSPHENAMINE-SQUIBB, 3 Gm. Ampules.—Each ampule contains sulpharsphenamine-Squibb (see New and Nonofficial Remedies, 1924, p. 58) 3 Gm. E. R. Squibb and Sons, New York.

DIPHTHERIA TOXIN-ANTITOXIN MIXTURE (new formula).—Diphtheria toxin-antitoxin mixture-Squibb (see New and Nonofficial Remedies, 1924, p. 298) marketed in packages of thirty 1 Cc. ampules. E. R. Squibb and Sons, New York.

ANTISTREPTOCOCCIC SERUM-SQUIBB.—Antistreptococcus serum-Squibb (see New and Nonofficial Remedies, 1924, p. 305), marketed in packages containing one 10 Cc. syringe; in packages containing one 50 Cc. vial. E. R. Squibb and Sons, New York.

ANTISTREPTOCOCCIC SERUM RHEUMATIC-SQUIBB.—Antistreptococcus serum rheumatic-Squibb (see New and Nonofficial Remedies, 1924, p. 305), marketed in packages of one 20 Cc. vial; in packages of one 50 Cc. vial. E. R. Squibb and Sons, New York. (*Journal A. M. A.*, Sept. 6, 1924, p. 767.)

AMPULES PITUITARY SOLUTION-WILSON, 0.5 Cc.—Each ampule contains pituitary solution-Wilson (see New and Nonofficial Remedies, 1924, p. 229) 0.5 Cc. Wilson Laboratories, Chicago.

THIOSINAMINE.—Thiosinamina. Allylthiourea. Thiosinamine is being used against arsphenamine dermatitis. This use is still in the experimental stage. Thiosinamine was originally introduced to promote absorption of scar tissue, lymphatic swellings, etc. Its restricted use indicates that it has little if any value for this purpose. Although it is usually well borne, except for its bitter taste and acid eructation, it may produce toxic systemic effects, and these may set in suddenly after it has been used for a time without toxic effects. (*Journal A. M. A.*, Sept. 13, 1924, p. 843.)

ORIDINE.—The calcium salt of the iodized fatty acids of cottonseed oil. It contains from 23 to 25 per cent. of iodine in organic combination. Oridine acts in the system similarly to the inorganic iodides. The iodized fatty acid radicle of oridine is not decomposed in the stomach but a part of the iodine is split off when it enters the intestine. The undecomposed portion is readily absorbed and, as in the case of other fats, it is largely deposited in the tissues where it is slowly split up. As with other iodized fats, the action of oridine is exerted more slowly than that of the inorganic iodides. Oridine is marketed in powder and as oridine tablets for the prophylaxis of goiter, containing oridine equivalent to iodine 0.01 Gm. Eli Lilly and Co., Indianapolis. (*Journal A. M. A.*, Sept. 20, 1924, p. 921.)

NATIONAL RADIUM EMANATOR.—A portable appliance for activating water with emanation; the emanation is emitted from a solution of radium chloride, barium chloride and sodium chloride. The appliance is claimed to produce 40 microcuries (150,000 Mache

units) of radium emanation to 1,000 c.c. of water daily. The actions, uses and dosage of radium are discussed in New and Nonofficial Remedies, 1923, p. 255. National Radium Products Co., New York. (*Jour. A. M. A.*, December 8, 1923, p. 1953).

IODOSTARINE-ROCHE—DIIODOTARTRIC ACID.—An iodine addition product of tartronic acid, derived from the fruit of a species of picramnia. Iodostarine-Roche contains 47.5 per cent. of iodine. It acts in the tissues similarly to inorganic iodides. It is not broken up in the stomach, but a portion of the iodine is split off when it enters the intestine. The undecomposed portion is readily absorbed and, as in the case of other fats, is largely deposited in the tissues, where it is slowly split up. The action of iodostarine-Roche is exerted more slowly than that of the inorganic iodides. Iodostarine-Roche is supplied in the form of tablets iodostarine-Roche 0.25 Gm., and as chocolate tablets iodostarine-Roche containing iodostarine-Roche equivalent to iodine 0.01 Gm. Hoffmann-La Roche Chemical Works, New York. (*Jour. A. M. A.*, December 15, 1923, p. 2032).

TETANUS ANTITOXIN FOR HUMAN USE-CUTTER.—Tetanus antitoxin, concentrated (see New and Nonofficial Remedies, 1923, p. 284), marketed in syringes containing 1,500 and 5,000 units each. Cutter Laboratory, Berkeley, Calif.

DIPHTHERIA TOXIN-ANTITOXIN MIXTURE-CUTTER.—Diphtheria toxin antitoxin mixture (see New and Nonofficial Remedies, 1923, p. 284), each c.c. representing 3 L+ doses of diphtheria toxin neutralized with sufficient antitoxin to conform to the toxicity requirements of the U. S. Public Health Service. It is marketed in vials containing, respectively, 1 c.c. and 50 c.c., and in syringes containing one immunizing treatment. Cutter Laboratory, Berkeley, Calif.

ANTI-ANTHRAX SERUM FOR HUMAN USE-CUTTER.—An anti-anthrax serum (see New and Nonofficial Remedies, 1923, p. 287), marketed in double-ended vials containing 50 c.c. for intravenous injection. Cutter Laboratory, Berkeley, Calif.

RABIES VACCINE-PASTEUR (CUTTER).—An anti-rabies vaccine (see New and Nonofficial Remedies, 1923, p. 294), prepared according to the method of the Hygienic Laboratory of the U. S. Public Health Service. The emulsion from the cord is shipped daily and is diluted at the time of injection. The treatment consists of 21 daily injections. Cutter Laboratory, Berkeley, Calif.

DIPHTHERIA TOXIN FOR THE SCHICK TEST-CUTTER.—A diphtheria immunity test (see New and Nonofficial Remedies, 1923, p. 323), marketed in packages of two vials, one containing diphtheria toxin and the other physiologic solution of sodium chloride for dilution. Cutter Laboratory, Berkeley, Calif.

CAPSULES CARBON TETRACHLORIDE A HUMAN USE-P. D. AND CO.—A brand of carbon tetrachloride—N. R. It is marketed in capsules containing 20 minims. Parke, Davis and Co., Detroit.

ELIXIR OF VERONAL.—Each fluid drachm contains veronal (see New and Nonofficial Remedies, 1923, p. 63), 2 grains in a menstruum containing alcohol 33.5 per cent. Winthrop Chemical Co., New York.

DIPHTHERIA TOXIN-ANTITOXIN MIXTURE (NEW FORMULA)-SQUIBB.—Diphtheria toxin-antitoxin mixture (see New and Nonofficial Remedies, 1923, p. 284), containing in each cubic centimeter 0.1 L+ dose of diphtheria toxin neutralized with the required amount of diphtheria antitoxin. Marketed in packages of

three vials, each containing 1 c.c.; and in vials containing, respectively, 10 c.c. and 20 c.c. of the mixture. E. R. Squibb and Sons, New York. (*Jour. A. M. A.*, December 22, 1923, p. 2115.)

BENZYL FUMARATE-ABBOTT. BENZYLIS FUMARAS.—It contains not less than 99 per cent. of benzyl fumarate. Benzyl fumarate acts like benzyl benzoate and benzyl succinate in lowering the tone of unstriated muscle. Like benzyl succinate, it has the advantage over benzyl benzoate in that, because of its insolubility in water, it is practically tasteless and does not produce gastric disturbance. It is employed in the same conditions as benzyl benzoate and benzyl succinate (see New and Nonofficial Remedies, 1924, p. 69 and 71). The Abbott Laboratories, Chicago.

SULPHARSPHENAMINE-METZ.—A brand of sulpharsphenamine—N. R. For a discussion of the actions, uses and dosage of sulpharsphenamine, see New and Nonofficial Remedies, 1924, p. 56. Sulpharsphenamine-Metz is supplied in ampules containing, respectively, 0.05, 0.075, 0.1, 0.15, 0.3, 0.45 and 0.6 Gm. The H. A. Metz Laboratories, New York. *Jour. A. M. A.* July 5, 1924, p. 41.)

MEAD'S COD LIVER OIL.—It has a vitamin potency so that one-fourth of one per cent. cures experimental rickets in rats in five days when added to the diet. For a discussion of the actions and uses of cod liver oil, see Useful Drugs, 6th edition. Mead Johnson and Co., Evansville, Ind. (*Jour. A. M. A.*, July 12, 1924, p. 121).

OLEO-BI (ROCHE).—A suspension of finely divided bismuth oleate in olive oil, containing bismuth oleate equivalent to 0.05 Gm. of bismuth (Bi) in each Cc. Oleo-Bi (Roche) is proposed as a means of obtaining the systemic effects of bismuth in the treatment of syphilis (see Bismuth Compounds, New and Nonofficial Remedies, 1924, p. 74). Two Cc. are administered intramuscularly, preferably into the gluteal muscle, two or three times a week. Oleo-Bi (Roche) is marketed in the form of 2 Cc. ampules. The Hoffman-LaRoche Chemical Works, New York. (*Jour. A. M. A.*, July 19, 1924, p. 195).

BUTYN OINTMENT-M. E. S. Co.—Composed of butyn (see New and Nonofficial Remedies, 1924, p. 32) 1 per cent, water 1 per cent wool fat and petrolatum 98 per cent. The ointment is put up in collapsible tubes for application to the eye. Manhattan Eye Salve Co., Louisville, Ky. (*Jour. A. M. A.*, July 26, 1924, p. 271).

THE SCOPE OF THE ROENTGENOLOGIST'S REPORT.—In the opinion of Charles D. Enfield, Louisville, Ky., (*Journal A. M. A.*, April 7, 1923), the ideal roentgen-ray report should present a careful and accurate description of the picture seen. It should offer whatever explanation of variations from the normal that may be conservatively given on a basis of established roentgen pathology. It should give, when this can be conservatively done, an estimate of the activity and present importance of the lesion, such estimate, however, to be derived entirely from the roentgen signs. It should place in the hands of the clinician all the information the roentgenologist has been able to obtain by his peculiar method of examination, and should offer it in such form as will most facilitate the correlation of the roentgen and clinical evidence.

ACNE VACCINE COMBINED.—A mixed bacterial vaccine (see New and Nonofficial Remedies, 1923, p. 318), marketed in packages containing one 10 Cc. vial, each Cc. containing 40 million killed acne bacilli and 1,000 million killed staphylococcus albus. United States Standard Products Co., Woodworth, Wis.

THE JOURNAL

OF THE

Missouri State Medical Association

The Official Organ of the State Association and Affiliated County Societies
Issued Monthly under direction of the Publication Committee

Volume XXI

ST. LOUIS, MO., DECEMBER, 1924.

NUMBER 12

E. J. GOODWIN, M. D., EDITOR
901 Missouri Theatre Building, St. Louis, Mo.

PUBLICATION { W. H. BREUER, M. D., Chairman
COMMITTEE { C. B. FRANCISCO, M. D.
 M. A. BLISS, M. D.

ORIGINAL ARTICLES

PEPTIC ULCER, MEDICAL AND SURGICAL PROBLEMS*

CLAUDE J. HUNT, M.D.

KANSAS CITY, MO.

Peptic ulcer is described as a localized necrosis of the mucous membrane of the stomach and duodenum caused by the action of the gastric juice upon a portion where the nutrition has been interfered with in some way. Prior to the recognition of ulcer of the duodenum the term was used to designate ulcer of the stomach, because of the digestive action of the pepsin upon the gastric mucosa. Most ulcers of the duodenum are in the very first portion of that structure and are subject to the influence of pepsin and hydrochloric acid. Hence, the term is used for both gastric and duodenal ulcers.

Following the report of Maynihan's first operation for duodenal ulcer in 1900, Weir's address on perforating ulcer in the same year and Mayo's 1904 report, much interest was at once manifested and progress was rapid. In spite of the vast amount of work which has been done, no one has satisfactorily explained the etiology and pathologic physiology of gastric and duodenal ulcer. These remain today the stumbling blocks in the successful treatment of this disease.

Numerous theories of etiology have been considered: (1) Mechanical, thermal or chemical trauma. (2) Trophic disturbances, similar to Reyand's disease. (3) Systemic disturbance, as occurs in extensive burns. (4) Interference with circulatory tone by faulty posture. (5) Lastly, and most important the lodging of infective thrombi in the terminal vessels of the stomach.

It has been shown by Reeves and others that the blood vessels on the lesser curvature of the stomach are terminal, with little or no anastomosis and throughout the first two inches of the duodenum a triangular supply of blood vessels exists which predisposes to stasis and thrombosis.

Rosenou¹ has proven that these thrombi are infected with streptococci favorable to an acid medium and that they are the exciting cause of ulceration by producing death and necrosis of the mucous membrane.

Experimentally, he has produced gastric and duodenal ulcers in animals by injecting intravenously bacteria derived from gastric and duodenal ulcers in the human. Likewise, gallbladder and appendiceal disease have been produced. This is important in view of the common occurrence of co-existing gall-bladder or appendiceal disease with gastric or duodenal ulcer.

Oshner² reports that in a series of 1,751 cases operated by him, gall-bladder or appendiceal disease was associated in 50 per cent. This marked relationship is probably due to the freely connecting lymph channels between these viscera. Disturbed circulation producing stasis around the pylorus as a result of a pylorospasm excited by a diseased gall-bladder or appendix, may be a predisposing factor in producing ulceration. Because of the proven work of Rosenou, foci in the tonsils, apical abscesses and infection elsewhere in the body should be sought and removed. The pathologic physiology is more obscure perhaps than the etiology. Whether or not the pain is due to the direct action of the acid on the ulcer is a much questioned possibility. It seems, however, that the severe continuous pain experienced by many and relieved by food and alkalies is due to that agent. Acid, however, has been inducted into the stomach and even applied to the ulcer itself without the sensation of pain. It is probable that the pain associated with peptic ulcer is largely the result of the pylorospasm and the violent peristaltic contractions that are produced by the irritative action of the acid gastric juice upon the ulcer itself. The intragastric tension is increased, delay in gastric emptying occurs because of pylorospasm and increased irritation follows, producing more or less of a vicious circle.

The etiology and pathologic physiology not being definitely understood, there is naturally much difference of opinion as to the proper treatment.

*Read before the Sixty-Seventh Annual Meeting, Missouri State Medical Association, Springfield, May 6, 7, 8, 1924.

Internists, gastro-enterologists and surgeons of wide reputation and extensive experience differ markedly upon this subject. It is not possible, however to classify all cases as medical or surgical but each has a definite field of usefulness depending upon the extensiveness of the pathological process present and upon the patient's willingness and ability to follow any specified line of treatment.

It is well recognized that a great many acute ulcers heal spontaneously. A great many show chronicity tendencies but are cured medically, which is proved by X-ray examination, disappearance of symptoms and some by post mortem examination. This is accomplished by controlling the hypersecretion and pylorospasm and correcting the acidity, eradicating foci of infection and by general health measures. Sippy, Eggleston and others report high percentage of cures by such methods.

Sippy has done more to popularize the medical treatment of peptic ulcer than any other clinician. His methods are simple and reasonable. They are based upon changing the environment of the ulcer by controlling the corrosive action of the gastric juice. He has shown that pepsin is not activated by combined acids but that the free acid is necessary to permeate the albuminous substances and prepare it for peptic digestion. Pepsin produces no digestive action on an ulcer in the absence of free hydrochloric acid. His treatment is therefore directed toward controlling the acidity during stated periods and by removing any retention of gastric contents until healing of the ulcer occurs.

The procedure, with perhaps some modifications for a non-obstructive ulcer, follows:

The patient is required to remain in bed for a period of three or four weeks, after which he may be up a portion of each day and later he may be out and around. If inflammatory conditions exist, as swelling about the ulcer, perigastritis and local peritonitis, a longer period of rest in bed is required. Hemorrhage always requires prolonged rest in bed. The diet is soft and palatable and is composed and proportioned as follows: Three ounces of a mixture of equal parts of milk and cream are given every hour from 7 a. m. to 9 p. m. After a few days two or three soft cooked eggs and a small amount of cereal are added. This is continued until the 10th or 12th day, when the diet may consist of 3 or 4 soft cooked eggs, 10 or 12 ounces of a cereal, 3 ounces at one feeding and the above portion of milk. Total at any one feeding should not exceed 6 ounces. Cream soups, vegetable purees, bread and butter may be added later during the period of accurate observation. Meats and meat broths are not given, due to interference with occult blood tests in the stool and in the stomach

contents. A powder containing 10 grains of heavy calcined magnesia and 10 grains of sodium bicarbonate, alternating with a powder containing 10 grains of bismuth subcarbonate and 30 grains of sodium bicarbonate, is given midway between feedings.

The powders should be continued every half hour for several doses after the last feeding at night if the acidity is high and the secretion is excessive. This may be determined by aspirating the stomach contents just prior to the intake of food or alkali and during the night. If the acid is controlled at that time it is likely to be controlled at all other times during the feeding hours. It is imperative that sufficient alkali be given to maintain complete Hcl. neutralization at all times. The calcined magnesia may be lessened if an uncomfortable diarrhea develops.

The management of the obstructive type involves the same principle with the addition perhaps of a larger amount of alkali and greater attention to aspiration of the stomach contents. Aspiration removes the greatest stimulus to excessive night secretion and therefore should be done from $\frac{1}{2}$ to 1 hour after the last powder is taken. If marked secretion is present this should be repeated at midnight and in the early morning. The night secretion usually disappears rapidly when free acidity is controlled and the excessive secretion is removed. After a few aspirations the quantity returns to normal. The Rehfuess tube furnishes one of the best means of aspirating. The seven hour motor meal should be given at various times during the treatment and the stomach aspirated at the expiration of that time to determine the emptying ability of the stomach. Comparisons should be made with previous aspirations. The amount of food retained will be much diminished after 10 days to two weeks. Aspiration serves three purposes: (1) Removal of all food and secretion subsequent to taking of last powder. (2) Determines efficiency of neutralization. (3) Determines presence or absence of occult blood.

The after management is based on a gradual increase in diet with longer intervals between feedings and powders and a gradual increase in individual activity. With this procedure accurately and faithfully followed for a sufficient period of time most all ulcers of short duration and those showing uncomplicated chronicity and those presenting nonorganic obstructive symptoms, can be cured.

There are several other methods of medical treatment advocated but time forbids any exhaustive discussion. They have many valuable features and have given very good results in the hands of some. Sippy's method, however, is based upon the most reasonable hypothesis,

is easily conducted and gives the most satisfactory results.

Many who suffer from chronic ulcer are unable to carry out the necessary details in the medical management. There are also many ulcers with too dense scar tissue and many with certain complications which do not yield under diet and alkalis. Surgical interference in such cases may lessen the period of actual medical treatment and assist in the cure by correcting the retention, relieving the pylorospasm and reducing the acidity. Much difference of opinion exists as to the nature and extent of the surgical procedure.

Complete excision of anterior duodenal ulcer without gastro-enterostomy has been followed by Judd³ in a series of 400 cases. He reports satisfactory results, while Coffey⁴ states that the results have often been disappointing. Gastro-enterostomy, accompanied by cautery excision (Balfour⁵) with suture of the defect, is a procedure of considerable recognition. The danger of excision plus gastro-enterostomy is greater than simple anastomosis and the results are not generally conceded to be so good. Excision, therefore, should probably only be performed upon ulcers showing repeated tendency to hemorrhage, upon gastric ulcers easily accessible and upon those in which malignant change is suspected. Ulcers on the posterior wall of the stomach that show a tendency to bleed can be approached after the method of Mayo⁶ by dividing the gastro-hepatic omentum.

Gastro-enterostomy is no doubt the best single surgical procedure giving the best results in the majority of cases. It is recognized, however, that gastro-enterostomy for nonobstructing ulcer is not as satisfactory as for one with a high grade organic obstruction. The greater the pyloric obstruction the surer and better the results will be. Because of this fact many methods of artificially obstructing the pylorus have been tried, but with apparently no improvement in the results. Patterson⁷ states that after gastro-enterostomy the acidity is reduced 30 per cent. This may be accomplished by gastric drainage or by permitting the bile and the alkaline intestinal contents to flow into the stomach, diluting the gastric juice. If due to drainage, obstruction would be desirable in duodenal ulcer for the reason that the acid stomach contents would be prevented from coming in contact with the ulcer. If, however, the presence of bile in the stomach aids in healing the ulcerated process artificial obstruction is to be avoided. It is probable that the drainage of gastric juice through the artificial opening and the influx of bile into the stomach brings about the reduction of acidity. The actual value of drainage is much disputed. Pat-

erson claims the good results are almost exclusively due to the influx of bile and not to gastric drainage. He contends that evacuation is only slightly accelerated where there is an open pylorus.

Much attention should be given to the size and position of the opening. A small percentage of cases show certain unpleasant post-operative sequelae, as gastro-jejunal ulcer and the vicious circle, the latter being rare because of improved technique. Moynihan⁸ states that "gastro-jejunal ulcers are the only serious complications to be faced in connection with the operation of gastro-enterostomy." He attributes the cause to the smallness of the opening, a bruising of the edges of the anastomosis, the developing of a hematoma in the wall of either viscus, persistent presence of a high free HCl. or the presence of partly released, unabsorbable suture. W. J. Mayo⁹ states that "jejunal ulcers are usually mechanically produced by retention of the suture material used in making the anastomosis." It is highly probable, however, that these ulcers are often caused by the focus which produced the original.

Perforation of a chronic ulcer is fairly frequent. According to Deaver 20 per cent of old callous ulcers perforate unless operated upon. When this occurs into the free abdominal cavity immediate surgical attention is demanded. The perforation should be closed and drainage instituted. Whether or not a gastro-enterostomy should be performed depends upon the time of operation following the perforation, general condition of the patient, the dexterity of the operator and the condition of the pyloric orifice. Gastro-enterostomy in my opinion should not be done unless there is evidence of a fairly high grade pyloric obstruction and this is rarely the case. The patient is usually in too much shock and the time consumed for such a procedure too long to justify the risk.

It is observed that when an ulcer perforates it frequently heals rapidly, partly because the active ulcerative portion has been destroyed leaving only the marginal induration (which is approximated by suture) and partly because of the subsequent rest in bed and the diet which the patient receives. Excision of a perforated gastric ulcer is desirable when easily accomplished and the patient's condition warrants the time. This is advised for the reason that the marginal cells of the ulcer may later undergo malignant change. Operation should be performed as soon after perforation as possible if the mortality rate is to be kept down. All sequelae of perforation, as perigastric abscess, subphrenic abscess, etc., demand surgical interference.

Hour-glass deformity producing obstruction

should be handled by one of the various surgical procedures advocated.

Hemorrhage is rarely surgical and most usually can be controlled after the first week of medical treatment or, if severe, by absolute rest, morphine and by withholding food for two or three days. If the hemorrhage is so large as to require immediate surgical operation the patient will almost certainly die before this can be decided upon and arranged. If not of this type, immediate operation is not necessary. An acute ulcer is never surgical when bleeding is present.

Duodenal ulcers rarely if ever undergo malignant changes; gastric ones, however, may. If malignancy is suspected the abdomen should be opened and if feasible the indurated area should be removed. Wide excision, preferably with cautery, is advised as malignant changes take place at the periphery of the ulcer and not at the base as in primary carcinoma.

SUMMARY.

1. Etiology of peptic ulcer is not definitely determined, although infarction with necrosis and the corrosive action of the gastric juice is accepted.

2. The pathologic physiology remains uncertain. Cause of pain is unknown.

3. The Sippy method of treatment is the most reasonable and most generally used for acute and uncomplicated chronic ulcer.

4. Surgical interference should be instituted in ulcers producing obstruction, hour-glass deformity, perforation, suspected malignant change and in chronic ulcers which have not responded to medical treatment.

5. Bleeding ulcers, ulcers suspected of undergoing malignant change and gastric ulcers should be excised.

6. Gastro-enterostomy is not advised at time of closure of a perforation unless evident signs of obstruction exist.

7. Hemorrhage is rarely if ever surgical.

924 Rialto Building.

REFERENCES

1. Rosenau, C. E.: The Production of Ulcer of the Stomach by Injection of Streptococci. *J. A. M. A.*, 1913, LXI, 1947.
2. Ochsner, A. J.: Gastric and Duodenal Ulcer. *Surgical Diagnosis and Treatment*, Vol. 2, 447, 616, 640, 686, 691, 763.
3. Judd: Quoted by Lockwood in a Resume of the Surgical Treatment of Duodenal Ulcer. *Canadian Practitioner*.
4. Coffey: Gastric and Duodenal Ulcer. *International Abstract of Surgery*, 1917.
5. Balfour: Cautery Excision of Gastric Ulcer. *Annals Surgery*. Vol. 67, 1918.
6. W. J. Mayo: The Calloused Ulcer of the Posterior Wall of the Stomach. *Annals of Surgery*, 1920, Vol. 72.
7. Paterson, H. J.: The Operation of Gastro-Jejunostomy and the Principles which Should Determine Its Use. *S. G. & O.*, 1914, XVIII, March.
8. Moynihan: *Abdominal Operations*. 3rd edition, Vol. I, p. 221.
9. W. J. Mayo: *Gastro-Jejunal Ulcer*. *S. G. & O.*, 1910, 227, 363.

DISCUSSION

DR. J. R. McVAY, Kansas City: In think the paper is thoroughly practical and at the same time a scientific presentation of many problems that confront one in dealing with peptic ulcer. Doctor Hunt laid stress on the pathology, particularly of duodenal ulcer, stating that some observers were of the opinion it was a localized necrosis. I will take the liberty of reporting an experience I have recently had with the case of a young man 32 years of age who two years ago suffered from a rather extensive gastric hemorrhage. He formerly had been an athlete. We followed the ordinary medical treatment of this ulcer and examined him with the fluoroscope at intervals for about fourteen months. We were able for the first four months to see a typical cap deformity. The next examination two months later showed much less deformity and at the end of fourteen months the cap filled normally. After the cap became normal I told him that to all intents and purposes he seemed to be all right as far as ulcer was concerned. In the meantime he had given the powers for ulcer treatment to all the members of his family who ever complained of anything of that kind and curiously enough some of them got well of other things. But he thought he was not entirely cured. He had bad tonsils that he had been advised to have removed. My associate expressed some pus from his tonsils and injected three rabbits. When the stomach of the first one was opened it was normal; in the stomach of the second were found multiple hemorrhages; and in the stomach of the third there was a definite duodenal ulcer. I recite this because I feel this method of proving the localization of bacteria in particular cases is important, particularly when the patient is one where you are doubtful as to the cause.

I do not believe Doctor Hunt fully covered the frequency of duodenal ulcer as compared with gastric, how that frequency was first in favor of gastric ulcer and few duodenal ulcers were found. Then at the Congress in London Doctor W. J. Mayo reported that in his experience there were four duodenal ulcers to one gastric, which percentage has apparently held until today. So the majority of diagnoses of peptic ulcer from the practical standpoint without the laboratory tests will be duodenal ulcer. I say that because one of the most important things in the diagnosis of peptic ulcer is an accurately taken history. I believe that to the man who does not do laboratory tests or X-ray work, an accurately taken history will enable him to make a more correct diagnosis than if he has an X-ray machine without the ability to properly interpret the shadows he sees on the screen. At the time I worked with Doctor Carman many of the patients came in with a positive diagnosis of duodenal ulcer and some of them brought their X-ray pictures, and although they were not indicative of duodenal ulcer they were followed up by test meal and X-ray and later in going over the history we found many things which if they had been considered would have enabled one to have reached a diagnosis and would not have led to the diagnosis of peptic ulcer.

In the treatment of patients with duodenal ulcer Doctor Sippy has laid great stress, and very aptly so, on the necessity of hospitalization of the patient. I do not believe that is necessary, in all cases, however. I believe there are cases which can be treated in their homes, in the country or the city, provided you take the trouble to explain to the patient what you want him to do and at the same time teach him the use of the stomach tube. In passing the stomach tube, during my hospital experience, I was surprised every once in a while to find a man who could pass

the tube far more quickly than I could. Aspiration of the stomach in ulcer is extremely important and it is fortunate that you can teach the patient very readily to do that himself. Then you will get the real benefit of the treatment and will not give up the mechanical treatment too soon.

PULMONARY ANTHRAX, WITH REPORT OF CASE

HOWARD H. BELL, M.D.

From Department of Pathology, Washington University School of Medicine, St. Louis

CINCINNATI, OHIO

Early medical observers recognized a pulmonary disease peculiar to those engaged in sorting rags and wool, and designated it as rag sorter's disease or wool sorter's disease. In the course of time it was shown by Hans Eppinger¹ that "Haderkrankheit" or rag sorter's disease was, in many instances at least, caused by *B. anthracis*. On account of this association pulmonary anthrax is often called rag sorter's or wool sorter's disease.

Primary pulmonary anthrax is an exceedingly rare condition in this country. Interest in this very old subject has been revived by recent studies especially concerning variation in resistance of different tissues to *B. anthracis*.

Besredka², and later Balteano³ have rather conclusively shown that the skin of rabbits and guinea pigs is the only tissue especially susceptible to anthrax invasion. Many fatal doses, as determined by cutaneous injection, can be injected intravenously, into serous cavities or visceral organs, without causing the disease, provided the skin be not contaminated.

It is of interest to mention that no demonstrable immunity resulted from such injections. In order to immunize guinea pigs, *B. anthracis* must be injected into the skin. Besredka considered that vaccination gave local immunity or skin immunity—the resistance of the skin being thereby raised to that shown by other tissues.

M. Aitoff,⁴ working in the laboratory of Besredka, studied the susceptibility of the conjunctiva to anthrax infection. The conjunctiva was found to be very resistant. Inoculation from cultures, or blood of animals dead from anthrax containing the bacilli, failed to produce the disease, even when inoculated on artificially produced ulcers. These negative results were considered to be due to local natural immunity of the conjunctiva.

Boquet⁵ pointed out that when young guinea

pigs were fed massive doses of anthrax spores, some would die in 4 to 9 days showing voluminous engorgement of the subglossal region and neck, and subcutaneous edema, associated with septicemia. He felt that the anthrax organisms had penetrated the buccal-pharyngeal mucosa. Boquet succeeded in producing fatal anthrax in guinea pigs following submucous injections of the tongue and cheek, and concluded that the mucous membrane is, like the skin, susceptible to anthrax infection. It should be mentioned, however, that he used an enormous amount of the "second vaccine." In the experience of Besredka, the first vaccine did not produce fatal anthrax when injected cutaneously into guinea pigs. The second vaccine did produce fatal anthrax in untreated guinea pigs, although it did not produce anthrax if preceded by the first vaccine.

At this time it may be mentioned that human cases of so-called nasal anthrax are described in the literature.

Holman and Fernish⁶ fed anthrax spores to guinea pigs in gelatin capsules to avoid mouth contamination. They state that the results of their experiments oppose the idea of primary intestinal anthrax. While virulent spores occur in the feces, still pigs did not readily develop cutaneous anthrax from their own feces.

They felt that edema as an indication of portal of entry of the infection was not reliable.

Brocq-Rousseau et Urbain⁷ studied the susceptibility of the lungs of rabbits and guinea pigs to anthrax infection. They injected into the trachea 0.2 c.c. of culture material which in virulence would kill a rabbit of 2,500 grams in dose of 1/10,000 c.c., if injected into the skin. These animals survived except in those instances where the skin was contaminated at the site of injection. The animals which survived were not protected against subsequent cutaneous inoculations of "second vaccine."

Their experiments showed that the lungs of such animals are relatively resistant to anthrax infection and can dispose of many fatal doses of anthrax bacilli when injected into the trachea without developing the disease. Intratracheal inoculation was not equivalent to cutaneous vaccination in that it gave no immunity.

The case here reported has several unusual points of interest. The history in brief is as follows:

CASE REPORT.

The patient was a colored woman, age 45 years, who had been in poor health all her life, chiefly on account of rheumatism. She had had measles, mumps, typhoid fever, pneumonia three times, and an operation for salpingitis 17 years preceding present illness.

6. Holman and Fernish: *Am. Jour. of Hygiene*, 3, 1923, p. 640.

7. Brocq-Rousseau et Urbain: *Compt. rend. Soc. de biol.*, 90, 1924, p. 4.

1. Hans Eppinger: *Wien. med. Wchnschr.*, 1888, Nr. 37, p. 1241; 1888, Nr. 38, p. 1276.

2. Besredka: *Ann. de l'Inst. Pasteur*, 35, 1921, 421.

3. Balteano: *Ann. de l'Inst. Pasteur*, 36, 1922, p. 805.

4. M. Aitoff: *Ann. de l'Inst. Pasteur*, 36, 1922, 567.

5. Boquet: *Compt. rend. Soc. de biol.*, 90, 1924, p. 72.

She was admitted to a municipal hospital for colored patients with complaint of nervousness, shortness of breath and swelling of the feet.

Her present illness started with an attack of indigestion three weeks before admission to the hospital.

The patient presented the picture of chronic cardio-renal disease. She was in the hospital 57 days preceding her death. During this period in the hospital there was slight fever, the maximum elevation of temperature varying from 99 to 102, with daily remission, often falling to normal or even subnormal temperature in the morning. There was a dry cough which, with shortness of breath, was very annoying to the patient. Pulse and respiration were increased. Blood pressure was 180 over 140. Urine contained much albumen and many pus cells.

Blood culture taken 21 days preceding death showed a large gram positive bacillus (doubtless *B. anthracis*) which was regarded by the examiner as a contamination, for anthrax was in no way suspected at that time.

Findings at autopsy by Dr. Wm. A. Hudson: Chronic pneumonia, with fibrous thickening of right pleura and edema of thickened pleura. Chronic mitral endocarditis with stenosis of mitral valve. Chronic adherent pericardium. Hypertrophy and dilatation of heart. Chronic passive congestion of visceral organs. Chronic diffuse nephritis; granular kidney. Arterio-sclerosis of aorta. Oophorectomy and salpingectomy.

Cultures from lungs at autopsy showed *R. anthracis* in pure culture. Heart's blood was sterile. Gram-Weigert's stain for bacteria did not show *B. anthracis* in sections of the spleen, liver, lymph node and kidneys, but did show gram positive bacillus (doubtless *B. anthracis*) in the lung. The outstanding features of the case are found in the cardio-renal breakdown, and the chronic pneumonia. I shall limit my remarks at this time to the chronic pneumonia.

The right pleural cavity was obliterated by old adhesions except for a small area at the apex. The fused pleura was edematous, measuring 1 to 1.5 cm. in thickness. Adjacent to the pleura of the middle and lower lobes was a progressive fibroid pneumonia indefinitely demarcated from normal lung by a zone of lobular pneumonia. Multiple small foci of abscess formation surrounded by proliferating fibrous tissue or by acute pneumonia undergoing organization were scattered through the outer part of the right middle and lower lobes. (See Fig. 1). The ac-



Fig. 1. Showing abscess formation in upper left corner and along lower border slightly to the right of the midline with a thrombosed vessel in the center. Above and to the right is areated lung tissue. Below and to the left is an open bronchus, above which is an artery filled with loose connective tissue and few cells. The tissue intervening between the areas mentioned is largely dense fibrous tissue. In the center is shown some anthracosis. This section is representative of the process in the right lung.

cumulated cells were mostly polymorphonuclear neutrophils, and to a less extent large mononuclear leukocytes. Small groups of plasma cells and lymphocytes were occasionally found.

The left lung was normal except for chronic passive congestion.

B. anthracis was grown in pure culture from the lungs and showed about 30 colonies from a platinum loop inoculation from the lungs on a blood agar plate. Culturally the organism was typical. It produced fatal anthrax in guinea pigs; the organism became extremely virulent for guinea pigs after numerous transferences.

DISCUSSION

Pulmonary anthrax has in some instances failed to give physical signs on examination and diagnosis has been made in such cases by finding anthracemia.

In a series of cases occurring in Lower Austria, 1870-1886, the mortality was 88.6 per cent. The death rate was very high on the second and third day of illness and diminished rapidly thereafter.⁸

The patient here reported was in the hospital for 57 days preceding death and showed at autopsy a chronic progressive organizing pneumonia with areas of necrosis. The source of infection was undetermined. The question may be raised if this was a hospital infection, or a preceding pulmonary infection of long standing. I am of the opinion that the infection was of considerable duration and am inclined to attribute the chronic pulmonary finding to *B. anthracis* for the following reasons:

1. An organism (doubtless *B. anthracis*) was recovered from the heart's blood 21 days preceding death.

2. There was no septicemia at the time of death; the spleen, liver, kidneys and lymph nodes contained no bacteria as shown by Gram-Weigert stain, and the lung contained only very few Gram positive bacilli.

3. There were no other organisms in cultures from lungs to account for the condition observed.

While the patient had had Gram positive bacilli (doubtless *B. anthracis*) in the heart's blood culture 21 days preceding death, at autopsy the heart's blood was sterile, suggesting the possibility of immunity developing. Although Brocq-Rousseau et Urbain⁹ caused no demonstrable immunity in guinea pigs by intratracheal injection, still it must be remembered that they made single inoculations. Immunity to anthrax results from a mild attack of the disease.

It might be mentioned that Graham and Detweiler¹⁰ reported a case of anthrax septicemia

8. Allbutt's System of Medicine.

9. Brocq-Rousseau et Urbain: Loc. cit.

10. Graham and Detweiler: Jour. Am. Med. Assn., 70, 1918, p. 671.

that recovered and mentioned a second case from the literature.

General Hospital.

A WAY OF LIVING*

G. WILSE ROBINSON, M.D.

KANSAS CITY, MO.

Man is the highest form of animal life. He maintains his superiority over other animals because of the higher development of the central nervous system, or brain. By means of his nervous system he is capable of adjusting himself to his environment and to the constantly changing conditions of life. The nervous system is a most complex mechanism of adjustment and the potential activities of the animal are greater as the mechanism of adjustment is more complex. Because of the very complex arrangement of the brain of man, he can adjust his activities to countless and varied situations in which the brain mechanism of other animals is entirely inadequate. Life is a process of adjustment of the individual to his environment.

The biological unit is acted upon by the environment and in turn reacts in some manner to the environment. The extent and nature of reaction of any given unit is determined by its structure and previous experience.

In health the adjustments are relatively good while in disease they are relatively bad. We are constantly forced to meet new and changing conditions. In health, a symmetrical balance is maintained between the activities which are constantly and continuously being readjusted to meet immediate needs. The individual's capacity for readjustment is measured by his ability to meet new conditions. New and unusual conditions always tend to disturb the balance between the activities. If they do not overtax the individual's capacity for readjustment, equilibrium may soon be restored, but should the new conditions alter the relationship among the activities to such a degree as to transcend the capacity for readjustment, then disturbance may result and produce those abnormal and unusual forms of thought, feeling or behavior, which ordinarily indicate mental or nervous ill health. We may entertain and be temporarily tyrannized by false ideas. Unhappy experiences may bring us to the verge of despair or we may be temporarily controlled by our passions without our sanity being questioned; but should the idea become fixed, despondency be our customary mood, or anger or fear control all our thought processes and

hold sway over all other symptoms, we can correctly be said to be insane.

Insanity in essence means a failure of mental adjustment. It means a disequilibrium among the varied activities. It means a conflict has arisen and that the individual has been called upon to meet conditions which he has not been able to meet. Improper training and bad environmental influences are responsible for the imperfect adjustment of many individuals. A person may be normal in his activities and adjustments until he meets some difficult situation in life. In order to fully understand the manner of reaction of the individual, it is frequently necessary to have information in regard to the early development, childhood, influence of the family's atmosphere, general education and social environment, habits of thought and action, of work and play, all of which are important factors in the development of mind and character.

It has been well said that society's greatest problems are:

"Can life be made easier, happier, more efficient for the majority of human beings?"

"Is it possible to control some of the causes which lead to the commitment of crime?"

"Can we prevent the unfit from propagating their kind?"

"What measures may be adopted to insure the development of a race whose actions shall be directed more by reason and less by weekly sentiment or boisterous passion?"

"May we, by taking thought, hasten the time when the minds of men may be capable of adjustments which will permit the spirit of charity and humanity to thrive instead of envy and malice, vengeance to give way to justice, war to peace, despair to hope?"

The expectation of ultimately attaining these ideals is a reasonable one, but their final triumph depends upon the degree of intelligent interest and effort that we put forth in the attempt to know ourselves.

As previously stated, the scope of the mind has been expressed in terms of three concepts—thought, feeling and will. Feeling gives value to experience, will modifies experience in the service of feeling; thought guides the will in activity. Out of the domain of feeling arises the system of ideals which the mind possesses; will is the continuous attempt to realize these ideals; thought reveals the world as a system of means by which the ends set by feeling may be attained. We judge the quality of the thought and feeling by the character of activity of the biological unit.

Reference has been made to insanity and the insane. The insane problem is one presenting many angles, all difficult of solution. There are more than three-fourths million per-

*Public Address delivered under the Auspices of Phi Beta Pi Fraternity, Columbia, Mo., February 21, 1924.

sons, of adult age, in the United States, so deranged in thought, feeling and behavior that they are incapable of managing themselves and their affairs with ordinary prudence, and many of them are so antisocial in their tendencies that they must be restrained in an institution. These persons we call insane. There are many others whose brain organization and association is so impaired that they are unable to compete successfully with their more normal fellows, who are able to think logically or realistically.

The insane either cannot or will not adapt themselves to the realities of life. And so by a system of ideas create for themselves an autistic or phantastic state which is usually much more to their liking than are the realities. In this state they are and possess what they most desired to be and to have previous to the attack of insanity. Their delusions are wish-fulfilling in character. If in reality they are very poor, in the autistic state they have delusions of great riches. If of low degree, they may believe themselves to be some great personage, such as a president, an emperor, king or queen, or it is quite the common thing for them to be transformed into God, Christ or the Virgin Mary. Or they may think themselves of great wisdom, a noted orator, singer, actor and so on. On the other hand, the delusions may be of a morbid or depressive type. These produce a state which is much more painful and unsatisfactory than the realities from which they have departed. Many persons, in order that they may temporarily escape from the painful realities of life indulge occasionally to an excessive degree in alcoholics and narcotic drugs, by which they substitute a phantastic state which is more pleasing to them than reality. The thoughts of the normal and sane are not always based upon reality. Autistic or phantastic thinking if kept within reasonable limits by logical thinking is beneficial. By this type of thinking we realize our ideals and are stimulated to attempt their attainment.

The autistic thinking of a child at play does not essentially differ from the autistic thinking of the insane. Little boys are fathers, husbands, great generals leading large and always victorious armies. The little boat or piece of wood floating in the bath tub is a mighty battleship in mid-ocean fighting and sinking other mighty ships. The chairs arranged in line are a train loaded with passengers which he as engineer is driving at a terrific rate of speed. It may meet another train, split a switch or spread a rail, there is a terrible wreck and many lives lost. The little girl is a wife, a mother, a school teacher with many pupils, some very good, others equally bad; she has a clothes shop for women and sells imaginary bonnets and

gowns to imaginary customers, she is an excellent cook and prepares many toothsome and dainty dishes. By autistic thinking children are preparing themselves for life that is to come, and should be encouraged, within reasonable limits, in this type of thinking.

Man from the beginning has attempted by various means to escape, at least temporarily, from grim, monotonous and unpleasant reality. He has thought autistically and has given expression to his thoughts through the medium of mythology, fairy tales and poetry. All adults, even the most practical, think autistically, but those who are normal and sane balance their autistic thinking with logical thinking. Autistic thinking when not so balanced and controlled gets the upper hand and we call the resulting mental state—insanity. If kept within proper limits by logical thinking, the autistic thinking is a valued aid in the prevention of insanity. The man of work that we know and admire does not correctly represent the primitive man. Man by nature is a playing and fighting animal. Because of habits which have been many generations in developing few men work for the plain necessities of life but for that which will permit them to escape later from the realities of grinding daily toil, and are quick to take advantage of every opportunity of release even for a day or more. This is demonstrated by the unusual craving for play, sport, holidays, all forms of relaxation and even for war.

The study of psychology, or the science of mind, is important for a variety of reasons, and since there is so widespread a tendency to study it from the standpoint of the behavior of the individual, the family group, the community, the city, the state, the nation and humanity in general, the value of the study to society has greatly increased. The study of the behavioristic psychology of any group of individuals yields results of scientific value, and as true science is most practical, the results are of practical value. McDougal says, "that the successful development of the social sciences is dependent upon the fullness and accuracy of the knowledge of the students of these sciences of the mind and its activities and that psychology is the essential common foundation on which all social sciences—ethics, economics, political science, philosophy and history, sociology and cultural anthropology, and the more special social sciences of religion, law, or education and art must be built up.

A definition of mind cannot be given. It is known only through its operations. The so-called faculties of the mind are three—namely, thinking, feeling and acting.

For the development of the mind there must

be: sensation, perception, memory, ideation, reasoning and judgment.

A sensation is an impression reaching the brain through the medium of a special sense organ and the sensory nerves intervening between the sense organ and the brain.

Perception is the very foundation of thought and is the conscious recognition of the external causes of sensation.

Memory is that faculty which enables man to retain and reproduce in his mind the impressions perceived.

Ideation refers to the formation of ideas. Concepts or ideas are formed by the grouping together of percepts with the aid of memory.

Reason is the association of ideas or concepts to form a judgment and the association of judgments to form new judgments.

Judgment is the result of a comparison or association of concepts, or of the comparison or association of judgments.

All men are supposed to be endowed with the privilege and ability to think, but there is obviously a qualitative and quantitative difference in the character of thought of different men. In Isaiah 55:8 we read:

"For my thoughts are not your thoughts neither are your ways my ways, saith the Lord." Every person now living could paraphrase that statement and say to every other person, "Your thoughts are not my thoughts nor your ways my ways."

Pascal says, "Man is but a reed, the weakest in nature, but he is a thinking reed." Jane Taylor is disposed to cast some doubt upon the assumption that all men think. She has written:

"Though man a thinking being is defined
Few use the grand prerogative of mind.
How few think justly of the thinking few
How many never think, who think they do."

We may differ in our views as to what constitutes thought, but we must assume that man as a class is a thinking being. Johnson recognized the co-relation between thought and wisdom when he wrote, "He that never thinks never can be wise." Daniel Webster believed most strongly in the power of thought and said, "Mind is the great lever of all things." "Human thought is the process by which human aims are alternately answered."

All who have seen have admired that wonderful statue in Paris called "The Thinker," the creation of the brain and hand of August Rodin, who is almost universally acclaimed the greatest modern sculptor.

Many other artists, but with less success, have attempted to give expression to thought in marble, bronze and on the canvas. The

statue of Lorenzo de Medici by Michael Angelo, and the painting by Sir John Millet, stand next to Rodin's "Thinker" as the most notable achievements in this line of endeavor.

The literature of all times and of all people has vied with art in an attempt to do homage to the man who thinks, and at no time in the past has the thinker been esteemed so highly as at the present time. I believe the welfare of humanity and the progress of civilization is now to a greater degree than ever before dependent upon the thoughtful men and women who attempt to correlate their deeds with their thoughts.

Carlyle, himself a thinker, wrote, "Nay, in every epoch of the world, the great event, parent of all others, is it not the arrival of a thinker in the world?"

Shelley recognized the great influence of thought for he said, "A thought by thought is piled, 'till some great truth is loosened, and the nations echo round, shaken to their roots, as do the mountains now."

In this connection I desire to call attention to certain principles which govern the functioning of the nervous system.

First. *Complex formation.* It is a law that associated ideas, emotions, feelings, sensations, visceral functions of whatever kind, tend after constant repetition or when accompanied by strong emotion or feeling tone, to become linked together in a system or group in such fashion that the stimulation of one element in the group stimulates the activity of the rest of the group. Such a group is conveniently called a complex.

Second. *Conservation.* Another principle or tendency of the functioning of the nervous system has been firmly established by repeated experimentation and observation. It is this: All our experiences, anything that we have thought, seen, heard or felt, tend to be conserved in such a way that they can be reproduced in the form approaching them in the original experience.

Third. *Disassociation.* The next principle to which I desire to call attention is disassociation. A characteristic type is functional amnesia or forgetfulness by which an epoch or long period of time is blotted out of the memory.

Fourth. *Automatism.* In the mechanism of the normal psychic life automatism plays a much larger part than is generally realized. We see it in habit actions and absentminded acts when our attention is directed to some other train of thought than that engaged in the action. It tends to the conservation of effort. In establishing fixed habits of thought, forming deeply rooted ideas, points of view, etc., we

form complexes which are capable of more or less automatic action.

Fifth. *Emotional energy.* It is a fact of observation that intense, strong, pleasant emotional feeling is accompanied by an increase of the vital functions; and certain depressive emotions and feelings are accompanied by a decrease in the vital functions.

It is generally recognized by psychopathologists that most if not all ideas have feeling tones attached to them. When certain complexes of ideas which have a pleasant feeling tone are brought into the personal consciousness there is awakened a state of energy, a feeling of well-being and invigoration of the whole organism; while on the other hand when complexes of ideas which have depressive or distressing feeling tones are brought into personal consciousness the contrary effect is produced. Briefly, exalted emotions have a synthetizing effect; depressing emotions have a disintegrating effect.

Of all the depressive emotions the one which is most productive of evil is the emotion of fear. It is one of the most primitive instincts of animal life. As Kipling puts it, "Fear walks up and down the jungle by day and by night." "Fear is rooted deep down in the very organization of animal existence." "It takes its root in what is the very essence of life, the instinct of self-preservation." As Sully says, "It appears early in the life of the child and seems to appear low down in the neurological scale." "Fear," says Darwin, "is the most depressing of all the emotions." The fear of coming evil, especially if it is unknown from experience, gives rise to a feeling of anxiety. "If we expect to suffer," says Darwin, "we are anxious." "The anxious condition of the mind," says Bain, "is a sort of diffuse terror." Anxiety is nothing else but the working of the instinct of fear. "Anxiety, fear, horror," says Mosse, "will twine themselves perpetually around the memory like deadly ivy, choking the light of reason." Fear may seriously disorder every function and tissue of the body." Sidis says, "the feeling of anxiety and all its accompanying phenomena is one of the manifestations of the most fundamental and most primitive of animal instincts. It is the fear instinct which is at the basis of all psychopathic or mental maladies."

Fear and morbid anxiety are the most common symptoms in psychopathic conditions and perhaps in all medicine. William McDougal in "An Introduction to Social Psychology," associates the instinct of flight and the emotion of fear. He says the instinct to flee from danger is necessary for the survival of almost all species of animals and in most of the higher animals the instinct is one of the most power-

ful. On its excitement the locomotory apparatus is impelled to its utmost exertions and sometimes the intensity and long duration of these exertions is more than the visceral organs can support so they are terminated by utter exhaustion or death.

These locomotory activities are accompanied by a characteristic complex of symptoms which in its main features is common to man and to many of the higher animals and which, in conjunction with the violent efforts to escape, constitute so unmistakable an expression of the emotion of fear that no one hesitates to interpret it as such; hence, popular speech recognizes the connection of the emotion with the instinct that determines the movement of flight in giving them the one name, "fear."

Man to become adapted to his environment must be a transformer of energy. This adaptation to environment is made by means of a system of organs evolved for the purpose of converting potential energy into heat and motion. The principal organs and tissues of this system are the brain, the adrenals, the thyroids, the muscles and the liver. Each is a vital link, each plays its role and one cannot compensate for the other. Crile by his experiments and observations has demonstrated and has explained in his work, "The Origin and Nature of the Emotions," the effect of all the depressive emotions on the cells of these organs.

Cannon in his work, "Bodily Changes in Pain, Hunger, Fear and Rage," discusses the antagonism of the autonomic and vertebral sympathetic nervous system in relation to the emotions. He says the cranial autonomic is concerned with the quiet service of building up reserves and fortifying the body against times of stress. Accompanying these functions are the relatively mild pleasures of sight, taste and smell of food. The possibility of existence of these animal delights of eating and drinking and also their physiologic consequences is instantly abolished in the presence of emotions which activate the sympathetic deviation. The secretion of saliva, gastric juice and pancreatic juice is stopped, the motion of the stomach and intestines ceases at once both in man and the lower animals, whenever pain, fear, rage or other strong excitement is present in the organism. The stimulation of the cerebral sympathetic by fear and morbid anxiety immediately causes an increased secretion of adrenalin. An increased amount of adrenalin in the blood causes exhilaration of the respiratory and circulatory mechanism and one of the most important results is to cause the liver and muscles to release their reserve store of glycogen. This is thrown into the blood as blood sugar and that which is not needed for

immediate consumption is excreted by the kidneys.

McDougal says, "the release of the glycogen under the influence of fear, rage, pain, etc., is a provision of Nature to prepare the body for great exertion in either combat or flight as inclination or necessity may require." Glycogen released under the influence of phobias is not used for the production of energy and therefore is wasted. If the fear extends over a considerable period of time there is a steady consumption, or if the fear is intense, a rapid consumption of the energy producing compounds of the body and a state of mental and physical exhaustion results.

McDougal has likened our store of nerve energy to a reservoir with many gates. When we desire to use nerve energy in any direction, the gate admitting the energy to flow in that particular direction is opened, and closed again when we have no further need of a flow of energy in that direction. In states of fear and anxiety and loss of the attentive control the whole system is disorganized. Several gates may be thrown open at one time allowing an escape of nerve energy in directions not needed and it is therefore wasted. The loss of the power of attentive control prevents the mind from concentrating in the direction desired and the nerve energy cannot be directed.

Insomnia is said to cause exhaustion. It has been my observation that in the absence of fear, morbid anxiety and loss of attentive control as associated with insomnia, there is no exhaustion. I have not seen a case of nervous or mental exhaustion result from uncomplicated insomnia. If a better understanding was had of the physiology of sleep, disorders of sleep would not cause the fear so frequently seen. It should be understood that we go to bed to rest and not merely to sleep, and that if we rest quietly throughout the night we can accumulate a store of nerve energy for the stress of the following day even though we do not sleep. Sleep is not essential to life or health, but rest is.

Another very common mental factor in the production of the neuroses and of the psychoses is the loss of the power of attentive control. In our scheme of school education, attention is of paramount importance and the child who finishes his school work without having an adequate degree of attentive control might as well have stayed at home and will perhaps later in life have to receive a course of re-education from the magistrate or the physician.

Dr. H. Crichton Miller states that the attentive control is the one aim of all true education. But our educational system is dealing

with it less successfully now than previously and when the failure of attentive control manifests itself in later life, as in ill health, it falls to the physician to correct it. The number of persons who manifest a loss of attentive control is increasing at an alarming rate.

The symptoms are much the same in all. The patient is a victim of indecision, he cannot make up his mind on any subject, he has lost the power of mental concentration, he has lost his will power, and in many instances his mind is bound to one particular idea.

Those who have actually passed that imaginary border line between sanity and insanity likewise have their morbid fears and obsessions, imperative ideas, etc., which are so distracting that they cannot direct their ideas and cannot control their attention. They must be dealt with in a mental way by psychoanalysis, explanation and side-tracking. Occupation and amusements are very helpful, and a course of re-education of the attentive control gives results.

The stress of present-day business and professional life drives many men to make overdrafts upon their nervous and mental energy. If this practice is continued a feeling of inadequacy develops, they shortly become morbidly afraid that their work is greater than their ability. Their ideas now center upon this fear or failure rather than upon the details of their business. They do not give attention to the daily events and occurrences and an apparently failing memory gives them added cause for worry.

Loss of attentive control is responsible for many business failures. Ideas of ill health may dominate the field of thought and a loss of attentive control results.

The most commonly observed fears are, the fear of syphilis, the fear of cancer, the fear of tuberculosis, the fear of insanity and the fear of dying. The number of persons manifesting these morbid fears is rapidly increasing; this is especially true of the fear of syphilis, the fear of insanity and the fear of dying. The victims of morbid fears are innumerable. With all of them the loss of attentive control is the most insistent and common symptom and when they regain the power of attentive control their health is commonly restored.

Some considerable discussion has arisen as to the nature of attention and its relation to the will power. With modern psychology there is a tendency to use attention and will power synonymously.

Huxley defines the aim of all true education as follows: "To enable us to do the things we ought to do, when we ought to do them, whether we like them or not." I would supplement that definition by saying, that the aim of

all true education is also to enable us to think the thoughts we ought to think when we ought to think them whether we like them or not.

Musterberg says, "Mere learning is no substitute for training of mental energy. Habitual rushing to new and over new impressions may easily interfere with the development of persistence in character. Whether the will is allowed to start on one thing and then to be pushed to something else or whether it is forced to hold on against all difficulties make the difference which counts for life."

An education which spoils the mind and never demands real effort, which simply follows the likings and interests, leaves the adolescent individual in a flabby and ineffective state. "On the other hand, the training of attentive control insures strength in any sphere, even though the gift be small. The mind that has learned to resist distractions can hold its own in any field."

Aiken says, "I would define education, moral and intellectual, as attention." All classes of temperament and persons do not require for the execution of their work the same amount of attentive control.

The artist's and poet's work does not require voluntary attention as does the work of the lawyer, doctor and the teacher. If the artist controls his associating mechanism with the same degree, he cannot produce good and inspired work. The artist and poet alike generally have so little control over the range of their consciousness that they are very commonly the victims of moods, of obsession and of phobias. A development of their attentive control might make them better citizens but would perhaps spoil them as artists or poets.

Miller classifies the views of attention offered by modern psychology under two headings, descriptive and explanatory theories. Descriptive: first as motor, second as sensori-motor. Explanatory: first as facilitation of ideas, second as inhibition of ideas, third as both.

Ribot is the champion of the motor theory. His view is that the muscular accompaniments constitute attention plus the objective side, that is, the state of consciousness which results. He says our only possible conception of the will is our idea of the action of the voluntary muscles. McDougal, Stout and others criticise this theory as not being sound.

The sensory description of attention as expressed by Marillier is: "A state of consciousness which is the result of temporary predominance of one representation over the moment or over the representations which are co-existent with it at any moment." According to this description the original sensory excitement is reinforced by sensations caused

by the muscular changes which are themselves the result of the first excitation. Neither of the above theories is satisfactory. The next definition of attention as a sensori-motor phenomenon as laid down by Wundt, Wallace, Kulpa and others is much more acceptable. It is sensory in its contents, motor in its manifestations and sensori-motor in its processes.

As stated above, the explanatory theories of attention are also three. The first of these theories, the one of facilitation of ideas, is advanced by Muller and others. Muller states that attention reinforces its object in three ways: first, adaption of a sense organ; second, facilitation of appreciation corresponding to stimulus in the central nervous system; third, recollection of similar ideas previously experienced. This theory does not take into consideration a well-known fact that the mind also has power to inhibit ideas.

Wundt goes to the other extreme and emphasizes entirely the inhibiting of attention. He divides the process into two essential and two non-essential factors. The two essential are: first, increase of clearness of definite ideas or groups of ideas accompanied by the feeling which is characteristic of the whole process from the beginning; second, inhibition of other available impressions or memorial images. The two non-essential factors are: sensation of muscular strain with the sense feelings which belong to them and which intensify the primary feeling; second, the intensification of the sensory contents of the apperceived idea by these strain sensations through the medium of associated co-excitation.

Wundt defines the *limen* of intensity as equivalent to the threshold of consciousness. That is, we perceive only what rises above the level. The *limen* of clearness is equal to the threshold of attention; that is, we apperceive only what reaches this high level. The second of the so-called essential factors, the inhibition of all impressions and memories excepting those attended to, he has associated with the frontal lobes, the so-called apperceptive center. Musterberg and Bastian have criticized him for attempting to create a faculty of attention and of locating it in a definite region of the brain. Wundt has replied that there is no attention as such but only ideas attended to and changes in ideas which constitute our attending are accompanied by a physiological process primarily in the frontal lobes.

The third explanation of attention is that advocated by Exner. He considers it to be a combination of the facilitation and inhibition of ideas. He compares inhibition with reflex action or the inhibition of a reflex response by the action of a higher center. This theory is certainly the most appealing of the three

explanatory theories. Munsterberg regards attention as an act of will. The entire process being dominated by the end in view which is bringing more vividly and clearly the given content into consciousness, or, in accordance with his theory every act of will is an act of attention in that the mechanism of a voluntary act is not conscious but is made possible by the appreciation of the idea aimed at. From all these views, mutually antagonistic as some of them are, Miller has deduced the following points: first, from the physiological standpoint the process is sensori-motor; second, from the psychological standpoint it encourages the facilitation of one idea with a corresponding inhibition of others; third, the limen of intensity is distinct from the limen of clearness; fourth, in practice we may regard attention and will as equivalent.

A discussion of these various theories now leads us to a consideration of the practical bearing of attentive control on subjective symptoms, from a therapeutical standpoint. It must be obvious to all that the power to facilitate an idea is proportionate to the power to inhibit other ideas. The more absorbed we become in our work and our studies, the less attention do we give to subjective sensations. If we keep the limen of clearness high we do not apperceive a competing idea. But if the competing idea is constant and insistent, its apperception is obviously dependent on the amount of interest which we are able to maintain in our work. The question of pain and pleasure in relation to attention is an important one. Sully regards all interest as an affect of attention, while Stout asserts that it is merely the result of attention. Sully's view appears to be sound. Attention may imbue an uninteresting act with interest. This really is what we desire to cultivate in our neurotic patient; the power through his attention of being able to determine his own area of consciousness and that with the least amount of effort. His greatest difficulty is that his imagination keeps his threshold of consciousness so low as regards his organic sensations that some stimulus, abnormal in character, is constantly entering his consciousness and constituting a suggestion.

To every individual is primarily given a definite supply of reserve nerve energy. It is necessary for all our mental and physical activities that we consume nerve energy. During our period of activity the consumption exceeds the production. This is one of the reasons why we become fatigued after mental and physical effort. During our period of rest the production exceeds the consumption, therefore our period of activity and period of rest should alternate and a balance of nerve energy

should be maintained. If for any reason this balance is not maintained and the consumption is greater than the production over a long period of time, nervous disabilities inevitably result.

The medical man in civil practice has long recognized certain types of nervousness, so-called functional neuroses and neuro-psychoses, as important causes of disability among his patients, but it is only in modern times that the military surgeon has been concerned to a major degree with these disorders of the nervous system as causes of disability among those in military service. No report was made of them either during the period or following the Spanish-American or South African wars. They were manifest to a sufficient degree to attract the attention of military surgeons during the Russo-Japanese War. Some reports were made concerning them at that time. Very early in the World War these conditions became one of the major medical problems of the medical corps of all armies engaged, and so many men were disabled by their operation as to seriously impair the efficiency of the fighting forces. Because of their occurrence during this war and their non-occurrence in previous wars, we must assume that they are either associated with modern methods of fighting or that the modern military man has not the carrying capacity or the ability to meet difficulties and adjust himself normally to them as had his predecessor. Because of these nervous disorders developed in the case of so many men who gave a history of having been concussed or exposed to the explosion of large shells, the English neurologists designated them generally as shell shock.

Much has been written in the lay and medical press concerning the condition known as shell shock, and many people conceived the idea that a new disease had been discovered, but when our Uncle Sam took a hand and sat in the game his neurologists in military service agreed upon the term of "war neuroses" as applicable to all of the neuro-psychoses occurring among the troops in the American Army, and decided upon a classification, which is as follows:

(1) Neurasthenia, a neurosis in which there is easy fatigueability plus irritability of the nervous system.

(2) Psychasthenia, an acquired or inherent inability to decide or to be satisfied with choice when made, plus doubt, phobias and depression.

(3) Hypochondriasis, a neuro-psychosis the chief symptoms of which are lowered threshold to internal or external sensory impressions which occupy to an abnormal degree the field of consciousness.

(4) Anxiety neurosis, occurs most commonly among men occupying positions of importance and is chiefly manifested by conflict of emotions and ideas. Such patients are impelled by the ideas of duty but are restrained by the fear of failure and ideas of incompetency.

(5) Hysteria, manifested by primary disassociation, processes in consciousness, and objective manifestations of ideas of disability. A condition which can be produced and removed by persuasion. The two principal types are conversion hysteria and anxiety neurosis.

(6) Concussion syndrome, symptoms are unconsciousness, stupor and confusion.

(7) Concussion neurosis, a neurosis or neuro-psychosis resulting from cerebral concussion or, as the French call it, "*commotio cerebri*."

(8) Gas neurosis, a nervous disorder following gas poisoning with symptoms of huskiness, dyspnea, sense of discomfort, burning sensation in throat and taste of gas.

(9) Effort syndrome, a condition which the British term D. A. H., or, disordered action of the heart. The principal symptoms are, rising pulse rate after effort, dyspnea, precordial pain, and a feeling of physical and mental depression.

(10) Anticipation neurosis, a neurosis or neuro-psychoses resulting from fear and anxiety of being exposed to danger, timorousness.

(11) Exhaustion syndrome, state of extreme fatigue, resulting from over-stress, exposure, and inadequate food, rendering the soldier unable to longer carry on.

(12) Exhaustion neurosis, a neurosis or neuropsychosis resulting as one of the sequelae of exhaustion.

All the war neuroses disabling military men have their analogy among men and women engaged in peaceful pursuits and are responsible for much disability among the civilian population. It is not possible to estimate the percentage of civilian population that are partially or completely disabled because of neuro-psychoses, but that it is very high all neurologists are agreed. Some attempt has been made in military practice to arrive at an approximate estimate of the percentage of soldiers disabled. The surgeons of the British Army estimated that one-fifth of all men discharged from the British Army, or hospitalized because of illness, had some form of neuro-psychosis as a cause of the disability. In all the armies engaged the percentage was likewise very high. That these disabilities among our troops have not been temporary in character is evident by the large number who are alleging residual disability and asking that they may be compensated for these disabilities even at the present time, a period of more than five years after the

close of the war. It is by far the largest and most expensive problem with which the Veterans Bureau has to deal today.

Through the warp and woof of every one of these mental and nervous conditions which are responsible for such an unbelievable amount of disability among both civilian and military individuals, runs the thread of fear, and let me emphasize at this time that the man or woman whose way of life leads into the day-tight compartment life, does not fear. The emotion of fear does not have its root in the day's work but in the anxiously anticipated trouble or failure of tomorrow.

It has been my experience and observation that individuals so disabled have failed to meet difficult situations successfully simply because they have not lived daytight compartment lives, but have endeavored to carry the load of the day's work, yesterday's regrets and tomorrow's fearful anticipations. This combination is too great a load for anyone to carry, and the result has been overdrafts upon the nerve energy of sufficient character to cause nervous and mental bankruptcy.

Every man has, or should have, a philosophy of life. He may be in possession of the very best and not know of its existence; having the very worst, he may pride himself as a Paragon. I wish to point out a philosophy which will fit any life, or any situation in life. In other words, a handle which will fit your life tools, to point out a path in which the way-faring man cannot go astray.

It is not a complicated system nor a formal plan; simply a habit, as easy or as hard to adopt as any other habit, good or bad. In our earliest infancy, we begin the formation of habits, both muscular and psychic. Life is a habit, a succession of actions that become more or less actions of the same kind.

Plutarch says that character is long standing habit. The way of life which I desire to present for consideration is a habit to be acquired gradually, by long and steady repetition. It is a practice of living for the day only, and for the day's work—life, as Sir William Osler has said, in day-tight compartments. Carlyle says our main business is not to see what lies dimly in the distance, but to do what lies clearly at hand. The workers in Christ's vineyard were hired by the day: In his prayer we are told to ask for our daily bread. We are forbidden to take any thought of the morrow. This way or philosophy of life has perhaps been less universally practiced than any other.

Say not and think not, sufficient unto the day is the evil thereof, but the goodness thereof.

Since the chief worries of life arise from

the foolish habit of looking forward and backward, there is peace for the anxious and worried man if he looks neither backward to the past nor forward to the future.

The chief factors of safety of the great ocean liners are the fore and aft water-tight compartments. By touching a button on the bridge the great iron bulkhead doors can be closed, shutting out all communication between the various compartments.

The safety of your today depends to a very great degree upon your ability to touch a button and hear at every level of your life the aft iron doors closing and shutting out the past, the dead yesterdays. Also, to touch another and shut off with the forward bulkhead doors the future—the unknown tomorrows. It is not easy to disregard the past; it haunts us like a shadow. We should learn to bury deep in the oblivion of each night the joys and sorrows, the disappointments, the mistakes and sins, the petty annoyances, the real and fancied slights of the day.

George Herbert says: "Undress your soul at night, not by self-examination, but by shedding, as you do your garments, the daily sins whether of omission or commission and you will waken a free man with a new life." Look back on rare occasions for stock taking but not for any other purpose.

You can have no greater handicap in your course than that of carrying the habit of retrospection and introspection, letting the mistakes of yesterday paralyze the efforts of today, hugging the worries of the past to your destruction; allowing the worm regret to canker the very heart of your life. St. Paul said he died daily and thereby insured the resurrection of a new man and made each day the epitome of a life.

The future should be shut off as tightly as the past. No fearful anticipations, no dreams, no visions, no fantasies, castles in the air with which hearts are broken, heads are turned. The tomorrow has no certainty except through today. The uncertainty of tomorrow is a proverb, yet we may all have the secret. The future is today, there is no tomorrow.

The day of man's salvation is now, the life of the present, of today, lived intensively, earnestly and sincerely with no forward looking thought is your only insurance for the future. Make the limit of your horizon a twenty-four-hour circle. Shut tightly and keep closed the great fore and aft bulkheads of your life, and constantly cultivate the habit of a life of day-tight compartments. The acquisition of the habit takes time, just as does the formation of any habit. The way is not hard if you will sincerely persist in your efforts to find it. If you learn to live your life in day-tight com-

partments you will be better able to bear your own and others burdens, you will find more of happiness, you will be able to travel much farther on the way which has been blazed for you by strong men, into whose labors you enter and whose ideals must be your inspiration.

The way of life which leads you into day-tight compartments offers far more of joy and less of sorrow, less waste of energy, mental distress, nervous worries and morbid fears, more power of attentive control and mental concentration to the work which is immediately at hand, and crying to be done. It is an insurance against failure and for success. So do not procrastinate but begin today the work of repair on your fore and aft bulkheads so they will close quickly and easily, for I doubt not that with most of you they are sadly in need of repair. Some of you perhaps have not realized that you have them, may perchance not know where they are and must search to locate them; if so, begin the search today for tomorrow is today.

937 Rialto Building.

SHOES

ARCHER O'REILLY, M.D.

ST. LOUIS.

The condition of the feet is important both economically and medically. Weak and painful feet result in serious economic loss, and they seem to be increasing in the community; or at least the general public seems to be realizing the necessity of prevention, to judge from the number of foot appliances advertised in the lay and scientific journals. The increase in foot trouble is probably due to a decrease in walking, occupations which require much standing, and in women, especially, to the modern styles of shoes. "The shoe is usually the direct cause of the minor deformities, and indirectly, in many instances, of more serious disability. Indeed, most of the deformities and disabilities of the foot are incidental to civilization, and are therefore confined to the shoe-wearing people" (Whitman).

Modern civilization requires us to wear shoes, but it is our duty to see that the resulting deformities and the economic loss be reduced to a minimum by the use of proper shoes.

It is not my intention in this paper to discuss flat foot, but rather to discuss briefly a few of the important factors that make a good shoe. In order, however, to understand the requirements for a good shoe, let us review briefly the mechanics of the foot and its relation to weak and flat foot.

The arches are supported by the muscles, the ligaments and the plantar fascia. When in active use the long arch is supported mainly by the muscles, but when acting as a passive support as in standing, the ligaments and the fascia bear most of the strain, and their elasticity allows the arch to flatten slightly. If this elasticity is diminished as a result of prolonged standing and overstretching the arches tend to fall and flat foot results.

In the normal standing position the astragalus rotates inward and downward on the os calcis until it is checked by the resistance of the ligaments. If this position persists the ligaments become stretched, the foot becomes pronated, and the very common type of weak and pronated foot develops. In the normal and active foot there should be a slight degree of adduction in the anterior portion. In the weakened condition the feet become abducted. This position interferes with the normal function of the foot in walking, and tends further to depress the arch.

Shoes may play an important role in causing these deformities or in preserving the normal shape and in promoting the proper function of the foot. "The direct effect of the ordinary shoe is to lessen the area and the adjustability of the fulcrum by cramping the toes. Indirectly it causes deformities—corns, bunions, and the like—which serve to make active movement or leverage painful" (Whitman).

Improper shoes may be dismissed with a word. They include the various types of pointed toes, French heels and some types that actually abduct the feet. The French heeled shoe tends to make the wearer walk on her toes, and results in an awkward and unnatural gait. The weight is thrown on the front of the foot, the anterior arch is flattened and painful callouses result. The foot slips forward, the toes are compressed and bunions are inevitable.

It is true that some women say that they are more comfortable in French heeled shoes than in any others. That is probably because in the majority of French heeled shoes the heel comes well into the middle of the foot, giving a support to the arch, and also because the shank fits into the arch, giving additional support. In this type the shoe acts as an arch support and the persistent use tends further to weaken the foot. These shoes might be used occasionally as dress shoes but should never be worn by anyone who intends to do much walking or standing. I wish to emphasize especially the foolishness and danger of using this type of shoe as a working shoe.

The proper shoe will not cause these deformities. In walking it should allow freedom of movement in the toes, and at the same time

in standing should give support to the foot, and prevent stretching of the ligaments.

In walking, as the weight falls on the foot the toes spread and as the body is raised on the foot they contract, and the final thrust is made by the great toe. In order to allow this action of the toes the front of the shoe should be wide enough to give freedom of movement to the toes and not cramp them. The inner border should be straight to allow for the normal position of the great toe and not to interfere with the final thrust in walking. It is also well to have the shoe moderately adducted, in order to aid in the normal adduction of the foot, an important factor in maintaining the arch.

The shank should be narrow and curved to fit into the arch of the foot. This will tend to support the weakened arch and also the foot in the resting position. It also has the advantage that the upper fits the arch snugly and gives an added support.

The heel should be large and in most cases low to give a firm support to the foot and to prevent pronation, the tendency of the weak foot to roll inward. In some cases where pronation has taken place modification of the heel may be necessary. This is accomplished by raising the heel a quarter of an inch on the inner border.

The height of the heel must be subject to variations: everyone cannot wear a low heeled shoe. In the normal foot dorsi-flexion is possible to five or ten degrees beyond a right angle. With modern conditions, however, and with the general use of high heeled shoes dorsi-flexion is rarely beyond a right angle and in many cases it may be five or ten degrees less than a right angle. When this is the case a low heeled shoe may be decidedly uncomfortable and may even tend to cause flat foot. It is advisable to test the amount of dorsi-flexion before giving a low heeled shoe, and to adjust the heel according to the conditions found. The height of the heel may have to be varied but the size and the amount of supporting surface must always be sufficient to give firm support.

If these requirements for a good shoe—wide toes with room for the individual action of the toes, straight inner edge, moderate adduction, narrow shank to support the arch and allow a close fitting upper, and a large heel to give support, which may be varied in height to suit the individual requirements—if these points were borne in mind when buying shoes, most of our foot troubles would disappear and civilization would be the happier.

A DRAINAGE MATERIAL AND A COVERING FOR MOIST SURGICAL DRESSINGS

From the Department of Surgery, Washington University
School of Medicine

GLOVER H. COPHER, M.D.

ST. LOUIS

There has been a need for a drainage material and a protective covering for surgical dressings aside from the materials now in use. An ideal material is one that can be easily sterilized by ordinary chemicals or by heat. It should permit free drainage from wounds and should be reasonable in price.

A substance that answers these qualifications is cellophane, a French invention which is made from pure cellulose of wood-pulp. Cellophane is thin, transparent and flexible. It is manufactured in sheets 36 by 39½ inches. The tensile strength of cellophane is as great as gutta percha or any of the synthetic materials used for drains. Its tensile strength is slightly greater in one plane of the sheet than in the other plane.

Sterilization of cellophane may be accomplished by any of the recognized methods. It may be boiled in water or sterilized under steam pressure. Chemical sterilization does not cause deterioration. If the cellophane is left for long periods in a dry, warm atmosphere it becomes brittle. This may be obviated by preserving it at a cool temperature. It is insoluble in ether, chloroform or any of the ordinary solvents, and burns with a slow flame which can be readily extinguished. Strips of cellophane placed in various culture media inoculated with various micro-organisms exert no influence on the growth of the bacteria.

Cellophane has been used experimentally and clinically for making cigarette drains. The experimental work was carried out on dogs. Drainage from abdominal abscesses is allowed to flow freely. The usual local reaction with the formation of omental adhesions takes place about abdominal drains made with cellophane. It may be used for drains in furuncles and small abscesses. Cellophane functions ideally as a protective covering for moist dressings. It will not melt when subjected to high temperatures and can be easily held in position about wounds.

Some experimental work was carried out with the idea of using cellophane for suture material. Thin strips of the material were twisted into strands and used in the suturing of various animal tissues. It was not absorbed but in clean wounds permitted healing by primary union. Cellophane has been allowed to remain in tissue for as long as 57 days. Some experiments are being carried out, using the paper for arthroplasty.

Euclid and Kingshighway.

THE ENDOMETRIUM OF THE MENSTRUATING UTERUS.—This study by Emil Novak and Richard W. Te Linde, Baltimore (*Journal A. M. A.*, Sept. 20, 1924), is based chiefly on a series of twelve recent cases in which the uterus was removed at some time during menstruation. The indication for hysterectomy in all these cases was either pelvic inflammatory disease or myoma. Most frequently, the two lesions were combined. In all the cases of the series, the menstrual rhythm was perfectly normal, and the menstrual dates were carefully checked. In many of these cases, the exact hour of menstrual onset was determinable objectively, as the flow made its appearance after the patient's admission to the hospital. While there is little difference of opinion at present concerning the uterine changes in the post-menstrual, interval and premenstrual phases, there has been much discussion for the last fifty years concerning the behavior of the endometrium during actual menstruation. The study of this material shows that extensive loss of tissue is the rule during menstruation, as Schroder has demonstrated. The entire superficial or compact layer, as well as most of the deeper or spongy layer, is thrown off. On the first day, the surface of the mucosa may be quite intact, but more commonly it shows beginning loss of tissue. By the second day, the throwing off has become very extensive, all the compacta and most of the spongiosa being gone. Regeneration changes are usually evident on the third day, and may be quite marked. The desquamation of mucosa is preceded by extensive infiltration with polymorphonuclear leukocytes and lymphocytes; this infiltration is marked for a short time before the actual clinical onset of menstruation. The throwing off of the mucosa does not usually occur as an extensive shedding in large masses. It is a sort of crumbling, molecular process, small strips and bits of granular degenerated mucosa being cast off until only the basal, and perhaps a few spongiosal remnants, are left. The desquamated endometrial portions may be recovered from the menstrual discharge. Pyknotic changes are prominent at the beginning of menstruation. Regeneration is remarkably rapid, especially the epithelization of the surface. The source of the new epithelium is chiefly the epithelium of the basal stumps of the uterine glands. Strange to say, mitosis is not a very frequent occurrence, appearing to a greater extent when the epithelial layer is already complete. While diapedesis may play some part in the mechanism of the menstrual bleeding, rhexis is the most important factor. It can be demonstrated histologically, although its occurrence is self-evident, in view of the extensive tissue loss associated with menstruation.

THE PHYSIOLOGY OF GLOBUS HYSTERICUS.—In the cases cited by Edmund Jacobson, Chicago, (*Journal A. M. A.*, Sept. 20, 1924), no difficulty in swallowing was observed or complained of. Moderate spasm of various portions of the esophagus was present with the experience of "globus." A fairly thick barium paste might in part remain thickly held in the esophagus for more than from ten to twenty-five minutes after swallowing. At another time, when no symptoms were complained of, the paste passed through without undue delay. Spasm of other portion of the gastro-intestinal tract might accompany that of the esophagus. Jacobson says that without denying a paresthetic element, it may be assumed that globus is essentially a spastic phenomenon. The walls of the esophagus, meeting in spasm, feel somewhat like a bolus of food and suggest to the patient the experience of a foreign body.

THE JOURNAL

OF THE

Missouri State Medical Association

DECEMBER, 1924.

EDITORIALS

FINANCIAL ASSISTANCE FOR STUDENTS

The day has passed when a man or woman with a meager education can compete with the one who has the general knowledge gained by attendance at a college of liberal arts. The lack of an education is a handicap that no man ever overcomes. In the medical field this is especially noticeable for without the foundation of a liberal education before entering medical school the most brilliant person will feel his deficiency at numerous points in his career. What, then, must the less gifted suffer, and they are the ones who make up the great majority of people, when they must enter upon life's work with a modicum of general knowledge. Colleges and universities are unable to accept all the requests that come to them from ambitious young people desiring to gain an education who do not possess the necessary funds but are willing to work their way through.

In order to provide an education for a larger number of young people who are unable to pay for their tuition a movement was recently started in St. Louis to establish a permanent scholarship loan fund at Washington University and we learn that appeals for contributions to this fund have met with a very gratifying response among business firms and individuals. Already there has been pledged sums representing an investment of \$120,000 and the work is to be continued until \$1,000,000 has been contributed. The funds are given in three ways: (1) In terms of one or more scholarships at \$200 a year for four years; (2) in endowment gifts; (3) in various sums as simple contributions to the fund. This method of assisting worthy young persons in obtaining an education is not a charity. It is a loan borrowed from the scholarship loan fund which the beneficiaries are expected to return to the fund when they have entered upon their life's work.

Shortly after the Washington University scholarship loan fund was inaugurated another fund was donated for the benefit of students at the University of Missouri. This was established by the late Miss Mary E. Perry, one of

the founders and long vice president of the State Board of Charities and Corrections. In her will Miss Perry directed that the residue of her estate, estimated at \$150,000, be used to establish a memorial to her father and be known as the John D. Perry Fund for the financial assistance of students at the university who shall appear to need and deserve such assistance when pursuing their studies.

Here are two instances of the awakening of the public mind to the importance of providing means for young men and young women to obtain an education and pay their way through school on funds obtained in a manner that will stimulate their manhood and womanhood to meet their obligations and start them on their way in life's struggle on an equal footing with other educated young people.

We hope these loan funds will attract many contributions from those who desire to establish memorials or to help a needy and worthy person obtain an education and thus enable him to give to the world the very best service of which he is capable.

LOUISIANA REQUIRES PHYSICAL EXAMINATION BEFORE MARRIAGE

The agitation during the last few years toward enacting statutes in the various states requiring physical examination precedent to the issuance of a marriage license and a certificate from the examiner that the applicant is free from venereal or other constitutional disease has become a law in at least one state, namely, Louisiana.

From the November issue of the *New Orleans Medical and Surgical Journal* we learn that the last session of the Louisiana legislature passed a bill known as the Ducros Bill, making it compulsory for any male applying for a marriage license to obtain a certificate from a licensed physician that he is free from venereal disease before the marriage license will be issued.

The enactment of the law has aroused considerable speculation among physicians as to their duties in complying with the provisions of the act so the editor of the *New Orleans Medical and Surgical Journal* has found it necessary to interpret the law. The conditions created by the passage of the act are interesting and we believe our members would be glad to know how the law is interpreted so far as it relates to the medical profession; therefore we quote the remarks of the editor as follows:

"Medical examination as a condition precedent to the application of males for a license to marry can be classed under two heads:

viz., those that deny previous venereal disease and those that admit exposure to these infections. Obviously, in the case of those with negative history, and where physicians can personally avow the patient's integrity, but a cursory examination would be expected. On the other hand, where the applicant admits having had, at some previous date, one or more of the venereal diseases, a most circumspect clinical and laboratory investigation is demanded. Relative to the number of examinations necessary, as well as the various kinds of investigations indicated, in venereally infected applicants, the Act fails to specify. This is where many of our readers are in a quandary. That some outline for the practitioner becomes necessary needs no argument. Through the joint efforts of the Louisiana State Medical Society and the Orleans Parish Medical Society a committee was appointed to confer with the Editor in an effort to place before the profession, in as terse and lucid a manner as possible, a gist of what is to comprise a satisfactory examination as required in the Act.

"Under a clinical study must be considered, a history of the case, a physical examination of the skin, glands, reflexes, etc. Visual examination would include, (1) the urine (class tests), (2) urethra (for discharge, palpable glands, stricture, etc.), and (3) the prostate gland and seminal vesicles (digital examination per rectum, as to size, consistency, etc.). Preferably a morning specimen of urine, studied microscopically for pus and bacteria (centrifugal specimen). If urethral smear is obtained, subject same to Gram stain.

"In cases giving positive histories, no investigation can be considered to any degree thorough unless patient has been seen three separate times, at five-day intervals (upon each visit being subjected to the above routine). If Wassermann test seems indicated, it must remain to the judgment of the clinician, as to whether it is to be only an examination of blood, or of both, blood and spinal fluid."

MESSAGE TO COUNTY SOCIETY SECRETARIES

We think it is only proper, as president and secretary of the Society of Medical Secretaries, that we should at this time of the year address a few words to the secretaries of the various county societies throughout the state. It is the desire of the officers of this Association that the 1925 meetings of the county societies shall be the best in every respect for many years. In order to accomplish this a large responsi-

bility rests upon the secretary of the county society. We urge the secretaries to stimulate interest among medical men and cause the profession to assemble at frequent, stated dates for the purpose of discussing live medical subjects and to promote a higher standard of medical standing and professional fellowship in their communities. We need in every county throughout the length and breadth of this state a wide awake, active, harmonious county medical society, and it is to this end that we appeal to you and your colleagues for co-operation. Where there is union there is strength, efficiency, harmony and an inward feeling of respect and pride.

If every county society did its full part in raising the standard of practice, medical integrity and fellowship in its community the profession would mount by leaps and bounds to its proper place as an honest, reputable, dependable organization trying to serve its constituents in an honorable, unselfish way. Such services and cordial fellowship among physicians will do more to command public respect and detract from the irregulars, cults and charlatans, than all the laws in the world. To the doctors themselves is due much of the criticism that prevails throughout the country and the wholesale preying upon the community by the quack and his co-workers. There has been too great a tendency among physicians to criticise their honest, hard working colleagues without stopping to think what they would have done under the same circumstances, or under the same surroundings. This is unjust censure and leaves in the minds of the patient a feeling of doubt and develops a failing confidence in the ability and honesty of the profession. Consider your fellow practitioner as you would like to be considered; remember that unwarranted censure only reflects upon the profession of which you are a part.

It is to be hoped that counties having no organized society will unite with other counties and have regular meetings. This can be very helpful in expanding acquaintances, stimulating friendship and developing and expanding professional attainments.

We hope that an honest effort will be made by all societies to work along these lines. It is also desired that every secretary will faithfully endeavor to attend the state meeting in Kansas City next year and report at our annual dinner the progress made in his community along the above mentioned lines.

C. J. HUNT, President,
J. T. HORNBACK, Secretary,

Missouri Society of Medical Secretaries.

A STATE HOSPITAL BULLETIN

Dr. J. H. Parker, Farmington, Superintendent of State Hospital No. 4, has begun the publication of a bulletin through which he proposes to let the people in his district know something about the methods adopted at the hospital in the care and treatment of the inmates. The first issue appeared in October under the title "State Hospital No. 4 Bulletin." In his opening comment, Dr. Parker says:

[During the period we have been associated with work in State Hospitals we have often marveled at the many misconstructions folks unacquainted with work in State Hospitals have placed on our work. One is astonished at the number of people, well informed people too, along general lines, who are densely ignorant as regard the insane and their treatment. The class is not confined to the laity either by any sort of means. Some of our profession, good men though they may be and are, still are entirely unacquainted with modern treatment and classification of our unfortunate insane.

Folks in general are imbued with the idea that the insane are possessed of great cunning, that they have supernatural powers of observation, that their physical strength is much greater than the sane, that their powers of endurance are unlimited and many other ideas equally foolish.

People visit us and immediately demand that they be shown our padded cells. When we tell them that we have none, that we have had none during this administration and to our certain and specific knowledge there has never been a padded cell in this institution since its birth, they are inclined to doubt us, for so and so told them that so and so had been informed by his half sister's niece's husband, who moved to Texas, later to California and is now dead, that he had a man to inform him that he had heard that they had padded cells at Farmington.

We have many visitors whose sole aim in visiting us is to see some of the horrible things they have heard through some such second-hand route as enumerated above. They don't come to see how well we are treating our patients but how bad. They don't look for things we view as constructive but are on the alert for something destructive.

So it is to correct some of the many erroneous ideas concerning the State Hospital and State Hospitals in general that this bulletin sets out to do.]

The first number of the Bulletin certainly starts out with good prospects of correcting some of the foolish ideas held by many people concerning the management of a state hospital and the care of its inmates. We congratulate Dr. Parker and his staff on the establishment of the Bulletin.

MISSOURI METHODIST HOSPITAL

On June 15 of this year a new hospital at St. Joseph, The Missouri Methodist Hospital, was formally opened for the reception of patients. This hospital displaces the old Ensworth Hospital which had been inadequate to care for more than a small number of patients for many years. The Missouri Methodist Hos-

pital is of fire-proof construction with six floors and a basement and a capacity of 225 beds. There is a specially planned and attractive department for children which it is intended shall provide a health center for boys and girls. Another important feature of the hospital is an entire floor specially designed for a maternity department. In all respects the hospital is supplied with modern equipment for the care and treatment of the sick in the most scientific manner. The cost of the building was \$1,000,000. Dr. Jacob Geiger heads the surgical staff and about fifty other physicians of St. Joseph are included in the staff.

NEWS NOTES

DR. P. G. H. VANDER WYST, of Stanberry, Mo., has moved to Scottsbluff, Nebraska, where he will be associated with Dr. E. J. Mitchell.

DR. WM. J. MAYO, of Rochester, Minnesota, addressed a special meeting of the St. Louis Medical Society, November 6, on "The Surgeon's Interest in Studies of the Blood."

DR. ELSWORTH SMITH, St. Louis, and Dr. E. H. Skinner, Kansas City, were guests of the Boone County Medical Society at the meeting held in Columbia, October 28. Both delivered addresses.

DR. DATE R. ALEXANDER, president of the Kansas City College of Medicine and Surgery, was denied a permit by the hospital and health board of Kansas City to establish a hospital in connection with his medical school.

DR. J. WM. WILLIAMSON, who practiced in St. Louis for many years but has recently been living in California with his son, Dr. Llewelyn Williamson, has returned to St. Louis and will resume his practice to a limited extent.

DR. DAVID S. BOOTH, of St. Louis, addressed the Gasconade-Osage-Maries County Medical Society at Freeburg, November 12, upon "Neurological Examinations and Diagnosis," which he illustrated with a clinical demonstration.

SCHOLARSHIPS on the Oliver-Rea Foundation for graduate study in medicine are available at the New York Post-Graduate Medical School and Hospital. Inquiries should be addressed to the Dean, 301 East Twentieth Street, New York City.

DR. NATHANIEL ALLISON, Boston, Mass., formerly dean of the Washington University Medical School, St. Louis, and three other physicians in Boston, announce that they will continue the practice of the late Dr. Robert W. Lovett in orthopedic surgery.

THE governor of Kansas has refused to honor a requisition of the governor of California for Dr. John R. Brinkley, Milford, Kansas, notorious goat gland and cancer specialist. When the diploma mill exposure developed a year ago Dr. Brinkley's legal right to practice was questioned and an investigation was promised. It is said that soon afterwards Dr. Brinkley made an extensive tour of the Orient.

The following have been accepted for New and Nonofficial Remedies:

Battle Creek Food Company: Lacto-Dextrin.

Eli Lilly and Company: Pituitary Extract-Lilly (Obstetrical); Pituitary Extract-Lilly (Obstetrical), 0.5 c.c.; Pituitary Extract-Lilly (Obstetrical), 1 c.c.; Pituitary Extract-Lilly (Surgical); Pituitary Extract-Lilly (Surgical), 1 c.c.

Medical Laboratories, Inc.: Culture Bacillus, Acidophilus-Medical Laboratories, Inc.

Merck and Company: Barbitol-Merck; Barbitol Sodium-Merck; Carbon Tetrachloride-Merck Highest Purity "C. P."

H. K. Mulford Company: Cargentos Capsules, 3 grains; Cargentos Ointment, 5 per cent.; Diphtheria Toxin-Antitoxin Mixture New Formula (Park Banzhaf's 0.1 L+Dose)-Mulford.

Nutrivoid Diabetic Flour Company: Nutrivoid Flour.

Parke, Davis and Company: Antidysenteric Serum-P. D. and Co., 20 c.c. syringe.

Powers-Weightman-Rosengarten Company: Quinine Ethyl Carbonate-P. W. R.

THE American Medical Association announces the publication of a new periodical, the *Archives of Otolaryngology*. The publication of these special journals by the American Medical Association constitutes one of its most important contributions to the advancement of scientific medicine in this country. It is generally recognized that the progress of knowledge in any field of medical science today is dependent as much as anything else on the wide dissemination of information as to new problems that are being investigated, and the results that are being achieved. The new periodical, as indicated in the announcement, will be devoted to the publication not only of original contributions on diseases of the ear, nose and

throat, but also of a monthly review detailing complete progress in some single field. It will contain abstracts of domestic and foreign literature and the reports of special societies dealing with otolaryngology. The Association is already publishing a notable list of special journals in internal medicine, nervous and mental diseases, dermatology and syphilology, surgery, and the diseases of children. To this outstanding list, the *Archives of Otolaryngology* will be a welcomed addition. It is hoped that members of the Association will give it the same sincere support that has been accorded the other special publications that have been mentioned.

CHIROPRACTIC AND INFANTILE PARALYSIS

COMES to the editorial desk a copy of the De Kalb (Ill.) *Daily Chronicle* for October 25, 1924, containing a brief article, presumably an advertisement, although not so designated, on infantile paralysis. According to the information disseminated by the *Chronicle*, "infantile paralysis is the direct result of nerve impingement somewhere along the contour of the spinal column." Then follows a description of the symptoms that may develop with infantile paralysis, leading up to the suggestion:

Should you notice any of these symptoms coming upon your child you should converse with a chiropractor immediately. He will adjust the segments of the spine and restore normal nerve supply to the part of the cord affected and reduce the inflammation before any damage has been done.

Presumably, the editor of the De Kalb *Daily Chronicle* would feel aggrieved if, in printing this stuff, he were accused of showing an almost criminal disregard of the public health. What would be thought of a newspaper that would urge parents who had children suffering from diphtheria, scarlet fever, smallpox or some equally virulent disease to take the child to a voodoo doctor or to pronounce incantations over the afflicted little one or to rely on the healing power of a horse-chestnut or a magic ring? Yet none of these suggestions is more iniquitous than that which would lead the public to believe that infantile paralysis is due to the impingement of spinal nerves and can be cured by chiropractic "adjustment."—*Jour. A. M. A.*

BOOKS FOR LEISURE MOMENTS

*Reading with discrimination broadens the mind
and strengthens the mental grasp*

From the pen of one of our county society secretaries, Dr. J. J. Gaines, Excelsior Springs, Secretary of Clay County Medical Society,

comes a collection of verses under the title "The Water Witch," (Hugh Stevens Press, Columbia, Mo.), that lead one away from the hurly-burly of life as encountered in the daily strife for ambition's goal and casts a spell of restful quiet upon one as he reads these verses. Written in the intimate style of the country born and bred, Dr. Gaines, more generally known as "Uncle John," depicts the joys and pleasures of the simple life of the people whom he has served in their times of distress for so many years and probes the depths of sorrow and heart aches of some of them.

The book is a real gem and reflects the sincere, sympathetic and kind nature of its author.

OBITUARY

WILLIAM A. McCANDLESS, M. D.

The qualities which impress us as we recall our departed friends fall into two groups: the professional and the personal. These, of course, are not altogether separable, because the quality of a man's professionalism is modified by the peculiarities of his mind and character, and on the other hand, a man's way of thinking and acting, his mental and moral attitude are inevitably affected by the nature of his daily occupation.

In reverting to the early eighties the writer seated on a bench in the dome of the old St. Louis Medical College can clearly picture Dr. McCandless as he was endeavoring to infuse osteology into the attending students. The clear, somewhat high pitched voice ran through the dome with marked impressiveness. Dry as the subject was, Dr. McCandless had the faculty of making his lectures engaging. He never failed to have a good attendance. His pre-lecture quizzes were always interesting on account of the humor he so wittingly interpolated. He was a great favorite with the students.

In the years of 1882-83-84 when he had his office at 14th and St. Ange the students who wended their way along that street to attend the clinics at the City Hospital always cast their looks at the bay window of his office in the hope of getting a glimpse of the Doctor at work.

In later years when time affects that inevitable breach, it was a pleasure to meet Dr. McCandless who always had a mood of cheer and encouragement for the young doctor. In general his attitude toward younger doctors was one of support and sympathy. As the years sped on Dr. McCandless became more and more prominent in his chosen specialty.

His ability as a surgeon brought him recog-

nition that spread far beyond the limits of his own city.

A notable quality of the good practitioner was the atmosphere of confidence and trust which his coming brought into the sick-room.

Hospitality was a deeply seated instinct with Dr. McCandless. He enjoyed the spirit of good fellowship in the medical societies to which he belonged. He contributed generously not only to scientific communications, but to the flow of humor and conversation about the board.

Dr. William A. McCandless was born in Macomb, Ill., October 28, 1849. In 1871 he graduated from Knox College, Galesburg, Ill., with the degree of A. B. In 1876 the degree of A. M. was bestowed upon him by the same college.

1873 found him a graduate in medicine from the old St. Louis Medical College, now the medical department of Washington University.

For several years he lectured at the old college on anatomy. Later he accepted a professorship in Surgery in the Medical Department of the St. Louis University. Dr. McCandless was chief surgeon for the Terminal Railway Association. He was Surgeon in charge of St. Mary's Infirmary up to the time of reorganization of the staff a few years before his death. He was a member of a number of leading Medical Associations.

Dr. McCandless died, June 25, 1924, rather suddenly while sojourning at his summer home, —Maine.—F. R., *Bulletin* St. Louis Medical Society.

EUGENE CHARLES GEHRUNG, M.D.

Were it not for the happy energy of the brain cells to record and retain certain incidents in the course of events, time would efface many of the joys of life. Recollections, even when meager, often fill one's hours with pleasant thoughts.

The writer finds himself in this position while reminiscing about the years when Dr. Gehrung was a member of the St. Louis Obstetrical and Gynecological Society. There his addresses and his deliberations were listened to with the keenest interest by the members of the Society. Much of professional moulding in dignity and tact the writer may be fortunate to possess can be to some extent directly attributed to the contact with this charming man.

With the death of Dr. Gehrung on April 11, 1924, there passed away a man who deserves well to be remembered by the medical profession of this city. (Dr. Gehrung has not been a resident of St. Louis for many years.) But few remain who could call themselves in a distinctive sense, his colleagues. The life that he

had led for years before his death was so quiet and so remote from the world of modern medicine, that the younger members of our fraternity have had little opportunity to become familiar even with his name, much less to make themselves aware of his fine qualities of heart and mind.

Dr. Gehrung was always a reader and a student, and he had a splendid power of literary appreciation and criticism. This together with the genuineness of his interests made him a very agreeable talker on all matters which he had set himself to study.

Dr. Gehrung was born in Mulkouse, Alsace, France, July 10, 1840. He was educated partly in France and partly in America.

In 1870 he graduated from the original college of physicians and surgeons in St. Louis.

An "ad eundum" was bestowed on him by the Missouri Medical College.

He was an active member in many medical societies in this country, and held membership in several societies in France.

Dr. Gehrung will always be remembered as the originator of that ingenious pessary known as the Gehrung pessary, a most valuable instrument in certain conditions of uterine prolapse. I cannot refrain from making mention of the great praise that Dr. Crossen has for the Gehrung pessary: "In my opinion it is the most effective and satisfactory pessary yet devised for severe cystocele and uterine prolapse. It has not come into general use because its introduction and adjustment require considerably more study than do ordinary pessaries. However, when understood the Gehrung pessary is increasingly relied on to relieve the distress in operable cases of prolapse. The origination of this pessary shows very careful and painstaking study of intrapelvic conditions and this same quality probably extended through all his work."

Dr. Gehrung died April 11, 1924, away from the city in which he practiced the greater part of his life.—F. R., *Bulletin* St. Louis Medical Society.

BENJAMIN MURRAY HYPES, M.D.

On a house on South Grand Boulevard there are visible the scarred remains made by a sign that for years announced the habitat of that house. That sign at one time bore the name of Dr. B. M. Hypes.

Since January 14, 1924, a sign was no longer necessary. The summons had come to Dr. Hypes, he was sailing the uncharted seas. In the death of Dr. Hypes another strong pillar from the structure of the old guard was removed. There are but a few remaining now.

Dr. Hypes possessed a charming personality.

The unvarying cheerfulness of his disposition made him, as a practitioner, particularly beloved by all his patients and his colleagues. He was modest but vivacious, energetic and companionable. It can be said of him that he went about with "high thoughts seated in a heart of courtesy." His kindness was overflowing and he believed the best of everybody.

The busy years of faithful and successful practice sped by, leaving each its crown of respect and gratitude as his hair silvered. He looked healthier and even younger in his later days, a sign in which there lurked undiscoverable deceit.

One distinguishing and important thing about our friend was his extra professional industry. Not only was Dr. Hypes a good doctor, but he was also a good horticulturist. He believed that every man should have an avocation as well as a vocation. He would have indorsed the words of Phillips Brooks:

"I am sure that here I may claim, and you will allow, that for every man's best good, it is desirable, it is necessary that he should have some intellectual or spiritual sympathy outside his business, which shall be the resource of his life, where he can go for the water of refreshment and life that will keep him from stiffening into a machine. Some place of mental resort, to find refreshment and recruit its spring. This is the evening element in life. There are multitudes who have turned to drudges and drudged along in a work that was slavery to them, just for the lack of some such resort, some interest outside their business to which they could retire."

Dr. Benjamin M. Hypes was born in Lebanon, Ill., July 31, 1846. He received his A. B. degree from McKendree College in 1866 and his A. M. degree from the same college 1868.

1872 found him a graduate in medicine from the St. Louis Medical College. Dr. Hypes was professor of Obstetrics in the St. Louis University for many years and a member of several medical societies.

His death occurred January 14, 1924.—F. R., *Bulletin* St. Louis Medical Society.

NANDY C. WILLIAMS, M.D.

Dr. Nandy C. Williams, of Springfield, a graduate of Barnes Medical College, St. Louis, 1894, died at St. John's Hospital, Springfield, October 7, 1924, from a self inflicted bullet wound while suffering from ill health. Dr. Nandy was 64 years old and had been a member of Greene County Medical Society for the past 16 years.

MISCELLANY

CHIROPRACTOR HELD LIABLE FOR MALPRACTICE

Last month a jury in Utica assessed \$10,000 damages against one, Francis T. Shyne, a chiropractor, for injuries which Miss Clara E. Brown charges she suffered from chiropractic adjustments given her by Shyne in April, 1923.

The defendant Shyne, a chiropractor, admitted on the witness stand that he was not licensed to practice medicine, surgery or osteopathy. The leading medical experts in the central part of the state who were called to testify in the case, stated that owing to the treatments given Miss Brown by the defendant she suffered a hemorrhage in or about the spinal cord causing permanent injuries. When Miss Brown was first seen by a surgeon after the chiropractic treatments she could not move her leg except a slight movement of the feet, her arms could be moved but were weak and there was a lack of power and coordination of muscle movement.

The defendant's counsel, Mr. Morris, who is the attorney employed by the Universal Chiropractic Association to defend chiropractors, representing Shyne, sought to show that the symptoms developed by the plaintiff after the treatment could have arisen from other causes.

James G. Greggerson, of Ohio, a lecturer of the Universal Chiropractors' Association, who, it will be remembered was used as an expert by Mr. Morris, the attorney for the chiropractors in the case upon which a chiropractor was convicted for manslaughter in Brooklyn, gave testimony in behalf of the defense. Likewise, Frank R. Weston, M.D., of LaCrosse, Wis., a son-in-law of Mr. Morris, one of the defense team in the Brooklyn case, was a witness in this case for the defense.

The testimony of the defendant's witnesses was directed to prove that the pressure used by the defendant in giving the adjustments to the plaintiff would be inadequate to cause a hemorrhage in the spine and the injury claimed by the plaintiff. Mr. Greggerson explained the theory and teachings of chiropractic in his testimony and stressed the claim that the cause of disease is due to pressure on a nerve by some deviation of the vertebrae from normal position the defendant having testified that he adjusted the fourth cervical and sixth dorsal vertebrae.

It appears that upon cross-examination Mr. Greggerson had only fourteen months' study in a chiropractic school. His early education did not continue beyond the eighth grade of common school after which he worked on a farm at the age of fourteen and later was employed in a grocery store. He later enlisted in the U. S. Infantry and thereafter for twelve years was employed by the International Correspondence School; following this employment he was an automobile salesman. These qualifications appear to have made him a chiropractic expert.

Mr. Greggerson contended that chiropractic treatment could cure cancer, tuberculosis, smallpox, diphtheria, scarlet fever, typhoid fever and diabetes, and when asked if he believed in the germ theory stated he did not and that he did not believe in vaccination for smallpox, antitoxin for diphtheria or insulin for diabetes.

The defendant was graduated from the Palmer-Gregory College of Chiropractic and had been practicing chiropractic for eleven years. He had taken a postgraduate course in the National College of Chiropractic in Chicago and in the New York School of Chiropractic.

The plaintiff complained to the defendant, Shyne, when she visited his office of laryngitis, insomnia and nervousness, and the defendant made a diagnosis of misadjustment of the fourth cervical and sixth dorsal vertebrae. The plaintiff received nine different adjustments.

The defendant had previously been Assistant Treasurer and ticket seller of the Weiting Opera House in Syracuse and in other theatres in other cities. He stated he made no diagnoses but sought only to ascertain what vertebrae might be out of alignment and in this way he would locate the cause of disease whether he knew what the disease was or not.

Dr. Weston, the physician called by the defense, admitted that he had testified for Mr. Morris in seven trials in which chiropractors were involved. He tried to ascribe the condition of the plaintiff to a degeneration of the spine caused by toxic conditions or poison.

Judge Edgecomb, presiding Justice of the Supreme Court in Utica, before whom the case was tried, it is reported, declared that Shyne, the defendant, was guilty of a misdemeanor in violating the Public Health Law against the practice of medicine without a license by reason of his treatment of the plaintiff. Three questions appear to have been submitted to the jury: (1) whether the defendant was negligent; (2) whether Miss Brown's condition was the result of his negligence; (3) whether Miss Brown was free from negligence. The judge further stated that if the defendant being unlicensed and absence on the dence for which the jury might along with the other evidence find him negligent. The jury after three hours' deliberation, found a verdict against the defendant chiropractor for \$10,000.

The ultimate action of the higher courts on this case will be of great importance and if the contention of the trial justice here that treatment by a chiropractor who is not licensed to practice medicine is some evidence of negligence is sustained, any one who has suffered injury as a result of chiropractic treatment by such unlicensed person need prove only the injuries sustained by the treatment, the fact of the defendant being unlicensed and absence on the part of the plaintiff of contributory negligence to make out a prima facie case. The effect of the enforcement of such ruling at law in suits for damages against unlicensed chiropractors should drive from the state many of those who are doubtless now responsible for inflicting serious injury upon the gullible patients who consult them.

Commenting upon the evidence, the court, so the report states, said:

"You do not have to bring in an expert to say a violent and severe jerk of the head which causes severe pain that immediately grows worse and if followed by paralysis is proper treatment. If it is proper chiropractic treatment I think the legislature is wise in not letting chiropractors practice in this state."

It might be interesting to note that the defendant in this case, under every chiropractic bill that has been introduced in the legislature for the last eight or nine years, would under the waiver clause be entitled to license without examination or test of his qualifications. The opportunity for the unskilled, unqualified or careless to become licensed even after examination is sufficiently grave without wholesale license of those who are admittedly incompetent and could not pass any test which would adequately determine their fitness. The evidence continues to pile up against the wisdom and propriety of the legislature granting chiropractors licenses in this state.—George W. Whiteside, Esq., Counsel, Medical Society of New York, in *New York State Journal of Medicine*, July, 1924.

DIAGNOSTIC CLINIC

At the meeting of the Jackson County Medical Society on Tuesday, October 28, a communication was read from the staff of the Research Hospital of Kansas City, relative to the diagnostic clinic to be established at that hospital. Since the communication holds considerable interest for all the members of our Association we reproduce it here from the *Weekly Bulletin* of the Jackson County Medical Society. The communication follows:

Kansas City, Mo., October 28, 1924.

To the Council of the Jackson County Medical Society:

The Board of Directors of the Research Hospital are convinced that group medicine offers more scientific and accurate diagnosis than is possible by the efforts of individual practitioners, that the establishment of a group medicine clinic in this city would offer facilities for accurate scientific diagnosis to the profession of the city and the outlying districts, that the sick of the community would thereby be benefited and that such an organization would act as a stimulus to and encourage scientific medicine.

Through the generosity of Mr. Wm. Volker, the Board of Directors of Research Hospital have been able to provide a suitable building completely equipped with separate consultation and examining rooms, X-ray and pathological laboratories.

The Board of Directors of Research Hospital realize that such an institution could not hope for success unless the institution was founded on the highest principles of medical ethics. With these principles in view, they have agreed that there shall be no treatments given at or by the clinic. Patients who may be referred to the clinic for treatment will be notified that no treatments are given by the clinic and that they are free to select any physician they may wish.

Patients will be accepted from regular physicians and will be returned to their physicians with a report of the findings, the diagnosis and suggestions for treatment.

Patients who voluntarily come to the clinic and who are under the care of an attending physician will be received only on consent of the attending physician. If such patient comes from a distance and it is impractical at the time for the clinic to communicate with the attending physician, they will be accepted for study, on completion of which a report with diagnosis and suggestions for treatment will be sent to the attending physician.

Patients who voluntarily come to the clinic and who have no attending physician will be accepted by the clinic for study at the completion of which the patient will be free to choose any physician he may wish.

The clinic shall be a pay clinic. The fees, while not fixed at this time, will be such that the clinic shall not compete with the average practitioner.

Physicians who are on active duty at the clinic and who are heads of departments will be partly compensated for their time, until such time that the clinic is self-supporting, when a percentage of the income will be pro-rated among the heads of departments who are on active duty, the balance of the income to be applied to operating expenses, depreciation, improvements and sinking fund.

The staff of the clinic shall be made up from the staff of the Research Hospital, but no physician shall be appointed a member of the staff of the clinic who is not a member in good standing of the Jackson County Medical Society and a member of the American Medical Association.

The code of ethics of the clinic staff shall be the

"Principles of Medical Ethics" of the American Medical Association which are a part of the constitution and by-laws of the staff of the clinic.

Appointments to the staff of the clinic or the promotion of a member of one subdivision of the clinic staff to another will be made by the Board of Directors of the Research Hospital only on recommendation by the active clinic staff.

FINED BY U. S. GOVERNMENT

The medical profession has ever stood behind the government in the attempt to enforce all legislation that was beneficial to the public at large. It has endorsed the Harrison Narcotic Law because it felt that its general provisions were for the public good.

This act, however, contains a number of petty and annoying regulations through which the medical profession may be harassed from time to time. The act seems to regard members of this profession as potential miscreants who, in order to be kept good, must be disciplined. I have received this notice from the Narcotic Division of the Philadelphia District: "On account of your failure to register your removal in this office within thirty days after removal occurred, you have incurred an additional tax effective from the first day of the month during which the removal occurred to the end of the fiscal year, amounting to \$2.75, plus the 25 per cent penalty of \$0.69, making a total tax and penalty due this office of \$3.44."

Have physicians so much spare time that they are supposed to peruse minutely and remember the detailed and insignificant regulations of this act? Apparently they are obliged to notify the Narcotic Division of removal of office within thirty days or else be subjected to a fine. To what end? Why this rigid domiciliary surveillance of the medical profession? The amount of the fine in this instance is trivial, but it appears to me that some of the provisions of this act with respect to the duties of physicians constitute a sort of meticulous tyranny. Men whose lives are devoted to the healing of the sick should not be subjected to petty annoyances unless there is evidence of bad faith.

It appears to me that the medical profession should make its voice heard with respect to such matters as these.—Jay F. Schamberg M.D., Philadelphia, *Journal of the American Medical Association*, November 1, 1924.

THE RESULTS OF TRYPARSAMIDE THERAPY IN SYPHILIS.—Joseph Earle Moore, Harry M. Robinson and Richard S. Lyman, Baltimore (*Journal A. M. A.*, Sept. 20, 1924), assert that in primary and secondary syphilis, or in tertiary syphilis without nervous system involvement, the therapeutic effect of tryparsamide is so slight as to preclude its further general use in these types of infection. In neurosyphilis, on the contrary, tryparsamide therapy produces favorable clinical and serologic results, which we believe cannot be equaled by other forms of treatment. Tryparsamide is of particular value in early general paralysis, in meningovascular neurosyphilis, and in the majority of cases of tabes. Advanced general paralysis is benefited little, if at all. In early neurosyphilis, the comparatively feeble spirocheticidal value of tryparsamide precludes its use unless in combination with an arsphenamin. The best method of use of tryparsamide has not yet been developed. Visual disturbances following tryparsamide have occurred in 17.8 per cent of a series of 241 cases; but in only 2.8 per cent has noteworthy permanent visual injury resulted. This untoward effect may largely be obviated by appropriate ophthalmologic control of treatment.

SOCIETY PROCEEDINGS

COUNTY SOCIETY HONOR ROLL, FOR 1924

(UNDER THIS HEAD WE LIST THE SOCIETIES WHICH HAVE PAID THE STATE ASSESSMENT FOR ALL THEIR MEMBERS)

- Chariton County Medical Society, December 13, 1923.
 Camden County Medical Society, January 17, 1924.
 Madison County Medical Society, January 19, 1924.
 Cooper County Medical Society, January 19, 1924.
 Platte County Medical Society, January 22, 1924.
 Morgan County Medical Society, January 23, 1924.
 Cape Girardeau County Medical Society, January 24, 1924.
 Clark County Medical Society, February 11, 1924.
 Dent County Medical Society, March 5, 1924.
 Adair County Medical Society, March 5, 1924.
 Howell County Medical Society, March 11, 1924.
 Taney County Medical Society, March 20, 1924.
 Webster County Medical Society, March 20, 1924.
 Vernon County Medical Society, March 22, 1924.
 Schuyler County Medical Society, March 24, 1924.
 Atchison County Medical Society, March 25, 1924.
 Ray County Medical Society, April 2, 1924.
 Ralls County Medical Society, April 28, 1924.
 Christian County Medical Society, May 1, 1924.
 Pulaski County Medical Society, May 10, 1924.
 Carter-Shannon County Medical Society, May 16, 1924.
 Benton County Medical Society, August 19, 1924.
 Ste. Genevieve County Medical Society, September 17, 1924.
 Monroe County Medical Society, September 23, 1924.
 Scotland County Medical Society, September 30, 1924.
 Harrison County Medical Society, October 3, 1924.
 Crawford County Medical Society, October 7, 1924.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

The Cape Girardeau County Medical Society met in regular monthly session in Jackson, Mo., October 13, with the following members present: Drs. Schulz, Shelby, Zimmermann and Yount, of Cape Girardeau; Dr. Ford, of Gordonville; and Drs. Seabaugh and Seibert, of Jackson.

The meeting was called to order by the president, Dr. Zimmermann.

The minutes of last meeting were approved.

Dr. Schulz reported a very interesting case of empyema; also a case in which he removed an ovarian cyst weighing 28¾ pounds from a woman who had, two months previous to the operation, given birth to a normal 10-pound baby.

Dr. D. I. L. Seabaugh reported a case in which a woman four months pregnant had a very severe uterine hemorrhage following a fall, the woman going on to full term, giving birth to one normal baby and one dead fetus about four months' gestation. The dead fetus was black but well formed and the amniotic fluid smelled exceedingly foul.

Dr. Seibert read a paper on "The Immunization Against Diphtheria in School Children." After this

paper was discussed by all present, Dr. Ford gave a very fine paper on "School Hygiene." This paper was also fully discussed.

No further business appearing, the meeting adjourned.
 D. G. SEIBERT, M.D., Secretary.

CALDWELL COUNTY MEDICAL SOCIETY

The Caldwell County Medical Society met in Braymer, October 24, at 1:30 p. m., with the following members present: Drs. G. S. Dowell, President; Tinsley Brown, Secretary; B. F. Carr, H. H. Patterson, L. J. Eads, M. L. Clint, T. W. Scanlon, L. M. Daley and Mrs. O. N. Thompson. Visitors: Drs. Eugene Hamilton and O. F. Bradford, of Kansas City, C. L. Woolsey, Braymer, a former member but for some time of Harvard Medical School, and Miss Sherrell, the County Nurse. The visitors were accorded the privileges of the Society.

The minutes of the meeting held at Breckenridge, September 17, were read and approved. A number of children was present for the clinical part and examined by Dr. Bradford and others and then brought before the Society and discussed individually. This proved of much interest. It was arranged to hold several clinics throughout the county in the near future to prescribe treatment and operation on such of those who indicated the need.

Dr. Eugene Hamilton discussed acute bowel obstruction, illustrated with lantern slides.

The meeting proved to be very interesting and everyone left with the view that those of our members who were not present had missed much.

Dr. Clifford Henry Wilbur, of Polo, made application for membership. The censors reported favorably on the application and upon ballot he was unanimously elected.

The Society adjourned to meet at Polo in November.

TINSLEY BROWN, M.D., Secretary.

CLAY COUNTY MEDICAL SOCIETY

The Clay County Medical Society held its regular October meeting at the Snapp Hotel in Excelsior Springs, Thursday, October 30. The session opened with one of the Snapp's famous Hallowe'en dinners and thirty-two members and wives "crossed their feet under the table." The utmost harmony and good feeling prevailed, for we now have a very capable Ladies' Auxiliary whose interest is at once as profound as that of their grave and reverend seniors.

After dinner the scientific program opened with a paper and case report by Dr. E. C. Robichaux, Excelsior Springs, on Pellagra. It is needless to say that the doctor omitted no detail to make this paper instructive and entertaining to the highest degree. The subject was fully discussed.

Dr. J. B. Wood, of Kansas City, gave an illustrated stereopticon lecture on "Vitamins." This was pronounced by our best dietitians to be one of the best lectures of the season. Food values occupied the foreground, and their application the climax of the very able effort. Without going into detail in this report we may say this one lecture and its discussion was worth many times our annual membership fee, and while our attendance is most excellent we fail to understand how many of our members can treat these meetings with such apparent indifference. We are sorry to report two delinquent members, keeping this honored organization off the roll of honor!

J. J. GAINES, M.D., Secretary.

HOWELL-OREGON COUNTY MEDICAL SOCIETY

The Howell-Oregon County Medical Society met in regular session at Pine Brook Inn, Siloam Springs,

Missouri, September 25. Dr. D. D. Cox, President and Dr. E. C. Bohrer, Secretary, and the following members were present: J. C. B. Davis, A. Wall, F. Vaughn, Willow Springs; P. D. Gum, A. H. Thornburgh, L. E. Toney, E. C. Bohrer, West Plains; and Dr. H. W. Kendig, Brooklyn, N. Y.

Dr. E. C. Bohrer read a paper on "Special Diagnostic Points in the Diseases of Children," which was discussed by Drs. Gum, Wall, Thornburgh, Cox, Toney and Kendig.

Dr. P. D. Gum gave a short talk on "Further Observations in the Use of Insulin in Diabetes," reporting results obtained on cases which he had presented to the society previously.

A general discussion on some diseases in children with special reference to the use of antitoxin in diphtheria followed. Dr. H. W. Kendig of Kings County Hospital, Brooklyn, N. Y., outlined the procedure used in that institution in the treatment of severe diphtheria.

After the meeting had adjourned the members spent about an hour walking over the beautiful grounds at the Inn; some indulged in shooting a little golf. This exercise, however, was hardly needed to do justice to the excellent dinner served at the Pine Brook Inn as the climax of a successful meeting.

The next meeting of the Society is to be held in Willow Springs.

E. CLAUDE BOHRER, M.D., Secretary.

TEXAS COUNTY MEDICAL SOCIETY

The Texas County Medical Society held a meeting, Thursday, November 13, at Licking, and elected officers for 1925. The election resulted as follows: President, Dr. E. P. Blankenship, Houston; vice president, Dr. R. B. Tilley, Plato; secretary and treasurer, Leslie Randall, Licking.

After the election of officers, resolutions were passed calling the attention of the State Board of Health to the fact that illegal practitioners were being appointed as registrars in Texas County and that a large number of "quacks" were practicing their cult in violation of the law to the detriment of the regular physicians.

Dr. E. P. Blankenship, Houston, read a paper on "Diabetes Insipidus," which was very interesting and ably handled. This was discussed by Drs. Covert, Womack and Randall.

Dr. James R. Womack, Houston, demonstrated an extension splint for fracture of the femur which was not only interesting but created a favorable impression on all present.

WRIGHT-DOUGLAS COUNTY MEDICAL SOCIETY

The Wright-Douglas County Medical Society met in the Masonic Hall at Ava, Thursday, November 6, at 1:30 p. m., with the vice president, Dr. E. C. Wittwer, in the chair and the following members and visitors present: E. C. Wittwer, H. G. James and A. C. Ames, of Mountain Grove; J. A. Fuson and R. M. Rogers, of Mansfield; J. R. Davis, of Noble; L. L. Henson, of Bradleyville; J. L. Gentry and R. M. Norman, of Ava; R. A. Ryan, of Norwood, and A. L. Anderson, U. J. Busick, F. T. H. Doubler and G. D. Callaway, of Springfield.

The minutes of the last meeting were read and approved. Dr. Busick read a paper on "Acidosis in Diseases of Childhood."

Dr. Doubler read a paper on "Practical Phases of Goitre Surgery."

Dr. Anderson read a paper on "Insulin Treatment of Diabetes."

The papers were all very instructive and brought out some discussion.

A bill was presented for \$15.00 for flowers for Dr. Farmer's funeral, which was allowed.

It was voted to send another \$10.00 to the state secretary for the Legislative Fund.

A vote of thanks was extended to the visiting physicians for the excellent program they had furnished for the day. This being the time for the annual election of officers, the following were elected by acclamation: E. C. Wittwer, President; R. M. Rogers, Vice-President; A. C. Ames, Secretary and Treasurer; J. L. Gentry, Censor for three years.

The meeting adjourned at 4:30 p. m. to meet at Mountain Grove, the first Thursday in February.

A. C. AMES, M. D., Secretary,

BOOK REVIEWS

THE HUMAN TESTIS. By Max Thorek, M.D., Surgeon in Chief, American Hospital, Consulting Surgeon, Cook County Hospital, Chicago, Ill., President International Congress Comparative Pathology, Rome, Italy, 1924. 308 Illustrations. Philadelphia and London. J. B. Lippincott Company.

This is another volume from the *Nephelococcygia* of the endocrins. In the language of the author, "a multitude of questions pertaining to the various phases of the work under discussion are still nebulous, unsettled and controverted. Particularly is this true when one considers the endocrinology of the testes. Dogmatism and cloudy information can only be clarified by the conscientious co-operation between the laboratory and the clinician." In himself, he modestly intimates, is combined that idealistic individual, the trained laboratorian entirely surrounded by the skilled surgeon, for on his title page we read that on one hand he is President of the International Congress of Comparative Pathology, Rome, Italy, 1924, and on the other hand Surgeon in Chief of the American Hospital of Chicago, etc. He informs us that for a long time he has carried out a large number of original investigations and much experimental research upon the testes of man and other animals, is acquainted with all the literature on the subject, has studied with Serge Voronoff the implantation of Simian glands in man, and with Steinhach his method of vasoligation and testicular transplantation, and has kept in touch with the work of other noted investigators in this field of endeavor. All of this work leads him to believe that it is not the secretion of the cells of the seminiferous tubules but the Leydig cells of the testes that are alone responsible for the production of the internal secretions which give rise to secondary sex characters, sexual potency and cerebral eroticization. With these facts clearly in mind he started out to try to find the best place in the body for the transplantation of a testicle to insure its growth. He believes that he has found the treasure site in the retrorenal space between Gerota's capsule and the endo-abdominal fascia. He has transplanted testes in 95 patients for various diseases and disturbances due to gonadal deficiency, tabulated and charted the results and concludes that: "Improvement in certain well defined pathologic states can be anticipated in properly selected cases following the use of proper materials and the employment of proper technique. Undoubtedly further research and the accumulation of clinical data will place therapeutic gonadal implantation more firmly as a valuable addition to the armamentarium of the practicing physician." He is "convinced that

there is great need for a compact work that embraces and elucidates the important questions pertaining to the anatomy, functions, pathology, dystrophias, endocrinology, aberrations and other important questions concerning the human testis." Hence, this octavo volume of 548 pages with 308 illustrations. A few pages are devoted to anatomy, a few more to a perfunctory description of the surgery of the testes, the remainder to endocrinology and the exploitation of the author's technique. The volume is well bound, the type large and clear and the paper good. Over 200 of the illustrations are taken from other works and unfortunately many marred in the copying. It is written with a good deal of enthusiasm and not a little bombentiousness. However, as it is the only book of the kind in any language and it needs no acumen to predict that it will be widely read and discussed in both lay and medical circles. It is destined to popularize gonadal transplantation and surgical charlatans will revel in its contents. A. R.

DENTAL INFECTIONS, ORAL AND SYSTEMIC. Volume I. Weston A. Price, D.D.S., M.S., F.A.C.D. This is the experimental basis for volume II. The Penton Publishing Company, Penton Bldg., Cleveland, Ohio. Price, \$20.00 per set.

Too much book for the subject. Its merits are hidden in a mass of discussion drifting into almost every by-way known to medical science.

W. W. D.

DISEASES OF THE MALE ORGANS OF GENERATION. By Kenneth M. Walker, F.R.C.S., M.A., M.B., B.C., Lecturer in Venereal Diseases, St. Bartholomew's Hospital; Surgeon with Charge of Genito-Urinary Department, Royal Northern Hospital, and Miller Hospital for S. E. London. London. Henry Frowde and Hodder & Stoughton. American Branch, 35 West 32nd St., New York City. Price, \$4.00.

This is a splendid little book on andrology, which treats of the diseases of men as gynecology does of the diseases of women.

A book on the male organs of generation might be expected to have a chapter on gonorrhea and syphilis. This one does not. The author believes that venereal diseases have been dealt with sufficiently in special works on the subject. The other diseases of the testicle, epididymis, spermatic cord, seminal vesicles, prostate and the external genitalia are discussed in a very able manner. The chapter on genital tuberculosis is particularly good.

Although the author is an Englishman and the book was published in England, he is very generous in his citations of American procedures and American authors.

The book was intended and is very well adapted for general practitioners and students. C. S. C.

FERTILITY AND STERILITY IN HUMAN MARRIAGES. By Edward Reynolds, M.D., and Donald Macomber, M.D. With a section on the Determining Causes of Male Sterility, by Edward L. Young, Jr., M.D. Illustrated. Philadelphia and London. W. B. Saunders Company. 1924. Cloth, \$5.00 net.

A volume of 285 pages written in a very entertaining style by a trio of Boston men who have given a great deal of study to this most difficult subject with the result that the knowledge covering the various phases of the problems involved lies before the reader in a form easily absorbed. The professional interest in the subject has been enormously awakened in recent years, making the appearance of the volume timely. The two well recognized specialties which are involved, gynecology and genito-

urinary surgery, make the joint authorship a matter of striking importance.

The diagnosis and treatment of the cases of sterility which have been considered in a routine way the province of the gynecologist, really must include both partners and can only be essayed when the final summing up of evidence is concluded by careful examination of each person so that the relative responsibility of husband and wife may be manifest. This diagnosis should be in the hands of one man and, as shown, the technic of the examination of the male is easily acquired.

In these more complicated cases of infertility in the man it is suggested the gynecologist will wisely refer to the genito-urinary surgeon.

The book will appeal to the general practitioner as well as to gynecologist.

The volume covers biology, determining causes of sterility in both female and male subjects, the relative infertility, marital habits and prevention of sterility, as well as the clinical conduct of the case.

G. M. C.

THE PRINCIPLES AND PRACTICE OF OBSTETRICS. By Joseph B. DeLee, A.M., M.D., Professor of Obstetrics at the Northwestern University Medical School; Obstetrician to the Chicago Lying-In Hospital and Dispensary, and to Mercy Hospital, etc. Illustrated. 4th edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. 1924. Price, \$12.00.

A complete and exhaustive review of the literature on obstetrics as it is understood throughout the world today. Only a man of vast experience could collect in one volume the practical things that make up the collective opinion of modern obstetricians.

This book is not original, does not claim to be original, and is therefore of more value to the practitioner than any man's original experiences could possibly be.

The chapter on the boney pelvis is simple but complete. Any third year student can understand it. His remarks on the induction of labor, the use of quinine, pituitary and forceps should be carefully read by every general practitioner who occasionally does obstetrics.

His chapters on the early diagnosis of pregnancy and on extra-peritoneal Cesarean section will be criticised by obstetricians, still his discussion is interesting even to men who do not agree with him.

This book is particularly valuable to the man who occasionally practices obstetrics.

W. C. G.

AGAIN, THE OPERATION FOR HALLUX VALGUS.—In consequence of his clinical experience Albert H. Freiberg, Cincinnati (*Journal A. M. A.*, Sept. 20, 1924), has set up for himself certain requirements for satisfactory operation, employing the principle of Hueter. The capsule of the joint should be opened in such a way as to provide a plastic flap which may be utilized for maintaining the adducted position of the toe. After any bony outgrowth on the mesial aspect has been chiseled off, the head of the metatarsal must be thoroughly exposed in the wound so that it may be properly dealt with. After the removal of the head, the end of the metatarsal should be reshaped. Care should be taken to remove all bone particles from the wound. The tendon of the extensor hallucis longus should be divided. The capsule flap should be overlapped to a degree providing for the maintenance of the adducted position of the toe. The wound having been closed, a splint should be applied for ten days in order to provide for the firm adhesion of the capsule flap. It is important to cultivate amplitude and power in flexion of the toe.

INDEX TO VOLUME XXI

A	PAGE	Book Reviews—	PAGE
Abdomen, Focal Infection Within the—Deaver	31	Annual Reprint of the Reports of the Council	
Abdominal Surgery, Conditions Amenable to Relief or Cure Through—Heller.....	33	on Pharmacy and Chemistry of the American Medical Association for 1923.....	255
Abrams Technique an Illusion and Fraud—Editorial	321	Baker, Dr. S. Josephine—Health Series. Little Brown and Co.....	253
Acne Vaccine—N. N. R.....	362, 402	Bayliss, Sir William M.—The Colloidal State in Its Medical and Physiological Aspects. Oxford University Press.....	60
Acute Poliomyelitis—Norton.....	65	Bazin, Alfred T.—Students' Guide to Operative Surgery. Renouf Publishing Co.....	400
Address of Retiring President—Vogt.....	81	Beck, Joseph C.—Applied Pathology in Diseases of the Nose, Throat and Ear. C. V. Mosby Co.....	399
Alford, L. B.—Dementia Precox, A Type of Hereditary Degeneration.....	1	Bell, Albert J.—Feeding, Diet and the General Care of Children. F. A. Davis Co.....	172
Amblyopia Following Epistaxis in Thromboplastic Purpura—Post.....	152	Bertrand, Ivan—Les Processus de Desintegration Nerveuse. Masson et Cie.....	292
Amendment No. 5, Vote For—Editorial.....	47	Bickham, Warren Stone—Operative Surgery. W. B. Saunders Co.....	208
Amendment No. 5 Defeated—Editorial.....	118	Bickham, Warren Stone—Operative Surgery. W. B. Saunders Co.....	252
American Congress on Internal Medicine and College of Physicians, The Convention of the—Editorial	116	Blair, Vilray P.—Essentials of Oral Surgery. C. V. Mosby Co.....	399
Amputations, Physiologic—Orr.....	383	Bliss, A. R.—Physics and Chemistry for Nurses. J. B. Lippincott Co.....	208
Anesthesia in Cardiac Disease and Its Complications—Schisler and Brown.....	309	Boas, Ismar—Habitual Constipation, Its Causes, Consequences, Prevention and Rational Treatment. Funk and Wagnalls Co.	98
Anesthesia in Minor Surgery—Wobus.....	16	Bourgiugnon, Dr. Georges—La Chronaxie Chex l'Homme. Masson et Cie.....	289
Annual Session, Springfield Committees for—Editorial	116	Bram, Israel—Goiter. The Macmillan Company	359
Annual Session, Missouri State Medical Association.....	162	Broadhurst, Jean—How We Resist Disease. J. B. Lippincott Co.....	172
Anthrax, Pulmonary, Report of Case—Bell....	407	Brooks, Herbert Thomas—Diagnostic Methods. C. V. Mosby Co.....	255
Anti-Anthrax Serum for Human Use—Cutter—N. N. R.....	402	Brophy, Truman W.—Cleft Lip and Palate. P. Blakiston's Son and Co.....	293
Antistreptococcic Serum—Squibb—N. N. R.....	401	Brown, Alan—The Normal Child, Its Care and Feeding. The Century Co.....	172
Apothesine—N. N. R.....	361	Brown, Ernest William, et al—The Development of the Sciences. Yale University Press	294
Arsphenamine, The Effect of, on the Coagulability of Blood—Copher.....	106	Buerger, Leo—The Circulatory Disturbances of the Extremities. W. B. Saunders Co..	256
Arteriosclerosis and Vasque's Disease, A Case of—Schisler	82	Bulkley, L. Duncan—Cancer of the Breast. F. A. Davis Co.....	254
Autonomic Imbalance in Infants and Children, Parenteral Infection as a Factor in the Production of—White.....	372	Cabot, Hugh—Modern Urology. Lea and Febiger	252
		Carter, Herbert S.—Nutrition and Clinical Dietetics. Lea and Febiger.....	207
B		Clinics and Collected papers of St. Elizabeth's Hospital, Richmond, Virginia. C. V. Mosby Co.	136
Banning, Pierson W.—International Faker—Miscellany	202	Coleman, Frank—Notes on Materia Medica. Oxford University Press.....	254
Barnes, F. M., Jr.—The Out-Patient Neuropsychiatric Clinic as a Factor in Vocational Rehabilitation	43	Collected Papers from the Washington University School of Medicine. C. V. Mosby Co.	168
Bell, Howard H.—Pulmonary Anthrax with Report of Case.....	407	Cotton, Frederic J.—Dislocations and Joint Fractures. W. B. Saunders Co.....	356
Benjamin Franklin Fund, Announcement of Awards from the—Miscellany.....	91	Craig, Frank A. (Edited by)—Diseases of Middle Life. F. A. Davis Co.....	295
Benzyl Fumarate—Abbott—N. N. R.....	402	Crowther, J. A.—Practical Physics. Oxford University Press.....	254
Berger, Harry Calvin and Jas. G. Montgomery—The Use of Chicken Blood and Serum in the Treatment of Pneumonia in Children....	137	Davies, Stanley P.—Social Control of the Feeble-minded. The National Committee for Mental Hygiene, N. Y.....	358
Bess, W. E.—Diarrhea of Infants and Children..	109	Davis, Loyal Edward—Neurologic Diagnosis. W. B. Saunders Co.....	399
Birth Registration Area, Physicians of Missouri Can Put Missouri in the—Editorial.....	320	DeLee, Joseph B.—Principles and Practice of Obstetrics. W. B. Saunders Co.....	430
Black, Donald R.—Gout, Studies in Chronic..	303		
Bladder in Obstetrics and Gynecology, The—Schmitz	61		
Bone Graft in the Spine, a Method of Implanting the—Grantham	107		
Books for Leisure Moments.....	24, 323, 388, 423		
Book Reviews—			
Abt, Isaac A.—Pediatrics. W. B. Saunders Co.	29		
Achard, Ch.—Clinique Medicale de l'Hopital Beaujon. Masson et Cie.....	357		
Achard, Ch.—Review of the Physiology and General Pathology of the System of Body Cavities—Masson et Cie.....	256		

Book Reviews—	PAGE	Book Reviews—	PAGE
Dock, George—Methods in Medicine. C. V. Mosby Co.....	327	McFarland, Joseph—Fighting Foes Too Small to See. F. A. Davis Co.....	296
Duroux, E.—Les Cancers. Masson et Cie....	254	McFarland, Joseph—Surgical Pathology. P. Blakiston's Son and Co.....	171
Dutton, Walton Forest—Intravenous Therapy. F. A. Davis Co.....	357	McNair, James B.—Rhus Dermatitis from Rhus Toxicodendron, Radicans, and Diversiloba (Poison Ivy). University of Chicago Press.....	290
Duval, Pierre—Etudes Medico-Radio-Chirurgicales sur le Duodenum. Masson et Cie....	289	Medical Record Visiting List. Wm. Wood and Co.....	59
Einhorn, Max—Lectures on Dietetics. W. B. Saunders Co.....	294	Meyerhof, Prof. Otto—Chemical Dynamics of Life Phenomena. J. B. Lippincott Co....	398
Eisenberg, Arthur A.—Principles of Bacteriology. C. V. Mosby Co.....	98	Miller, Charles C.—Cosmetic Surgery. F. A. Davis Co.....	358
Elias, H., M. D., M. Jagic, M. D., and A. Luger, M. D.—A Clinical Guide to Bedside Examination. Rebman Company.....	98	Moore, Ulysses—Nutrition of Mother and Child. J. B. Lippincott Co.....	292
Farr, Robert Emmett—Practical Local Anesthesia and Its Surgical Technic. Lea and Febiger.....	168	Morley, Arthur S.—Hemorrhoids. Oxford University Press.....	171
Fiessinger, Noel—Les Ferments des Leucocytes. Masson et Cie.....	172	Moynihan, Sir Berkeley—Gastric and Duodenal Ulcer. Wm. Wood and Co.....	291
Finsterer, Prof. Dr. Hans—Local Anesthesia Methods and Results in Abdominal Surgery. Rebman Company.....	169	Myers, Victor Caryl—Practical Chemical Analysis of the Blood. C. V. Mosby Co....	359
Fowler, Sir James Kingston—Problems in Tuberculosis. Oxford University Press....	253	New and Nonofficial Remedies, 1924. American Medical Association.....	292
Foxworthy, Frank W. (Edited by)—Life Insurance Examination. C. V. Mosby Co....	400	Newman, W. A.—The American Illustrated Medical Dictionary. W. B. Saunders Co..	289
Franz, Shepherd Ivory—Nervous and Mental Re-Education. The Macmillan Company	60	Newmayer, S. W.—Medical and Sanitary Inspection of Schools. Lea and Febiger....	290
Graves, William P.—Gynecology. W. B. Saunders Co.....	171	Nouveau Traite de Medicin. Masson et Cie.....	136, 172, 254, 291, 296
Griffith, J. P. Crozer—The Care of the Baby. W. B. Saunders Co.....	290	Nursing and Nursing Education in the United States. The Macmillan Company.....	98
Gwathmey, James Tayloe—Anesthesia. The Macmillan Co.....	400	Pardee, Harold E. B.—Clinical Aspects of the Electrocardiogram. Paul B. Hoeber, Inc.	358
Harrop, George A., Jr.—Management of Diabetes. Paul B. Hoeber, Inc.....	291	Pattee, Alida Frances—Practical Dietetics with Reference to Diet in Health and Disease. A. F. Pattee, Publisher, Mount Vernon, N. Y.....	136
Hawes, John B., 2nd—Tuberculosis and the Community. Lea and Febiger.....	356	Pearl, Raymond—Medical Biometry and Vital Statistics. W. B. Saunders Co.....	356
Hill, T. Chittenden—A Manual of Proctology. Lea and Febiger.....	169	Pediatrics—Various Authors. Edited by Isaac A. Abt. W. B. Saunders Co.....	253
Horowitz, Philip—Diabetes. Paul B. Hoeber.	255	Pennington, J. Rawson—Diseases of the Rectum, Anus and Pelvic Colon. P. Blakiston's Son and Co.....	170
International Clinics. J. B. Lippincott.....	289	Peters, Fredus N.—Chemistry for Nurses. C. V. Mosby Co.....	254
Joslin, Elliott P.—A Diabetic Manual. Lea and Febiger.....	296	Porter, Langley—Management of the Sick Infant. C. V. Mosby Co.....	295
Joslin, Elliott P.—The Treatment of Diabetes Mellitus. Lea and Febiger.....	169	Pratt, Fred J.—Intranasal Surgery. F. A. Davis Co.....	256
Kantor, John L.—The Treatment of the Common Disorders of Digestion. C. V. Mosby Co.....	255	Price, Weston A.—Dental Infections, Oral and Systemic. The Penton Publishing Co....	430
Knowles, Frank Crozer—Diseases of the Skin. Lea and Febiger.....	293	Reed, Charles B.—Obstetrics for Nurses. C. V. Mosby Co.....	295
Laird, Donald A.—Applied Psychology for Nurses. J. B. Lippincott Co.....	358	Reid, William Duncan—The Heart in Modern Practice. J. B. Lippincott Co.....	171
Lawson, Sir Arnold—War Blindness at St. Dunstan's. Oxford University Press....	170	Reynolds, Edward—Fertility and Sterility in Human Marriages. W. B. Saunders Co..	430
Lejars, Felix—Clinical Exploration and Surgical Diagnosis. Masson and Co.....	98	Roger, G. H.—Questions Actuelles de Biologie Medicale. Masson et Cie.....	289
Letulle, Maurice—Inspection-Palpation Percussion Auscultation. Masson et Cie....	294	Rose, Robert Hugh—Eat Your Way to Health. Funk and Wagnalls Co.....	400
Levinson, Abraham—Cerebrospinal Fluid in Health and Disease. C. V. Mosby Co....	136	Salmon, Thomas W.—Mind and Medicine. Columbia University Press.....	359
Lorand, Arnold—Life Shortening Habits and Rejuvenation. F. A. Davis Co.....	357	Sanders, Clifford E.—Guide Posts for Mothers. The Metropolitan Publishing Co.....	359
Lucas, William Palmer—Children's Diseases for Nurses. The Macmillan Company....	294	Seimens, Herman E.—Race Hygiene and Heredity. D. Appleton and Co.....	398
Macleod, J. J. R.—The Beaumont Foundation Lectures. C. V. Mosby Co.....	327	Skeel, Roland E.—Gynecology and Pelvic Surgery. P. Blakiston's Son and Co.....	399
Marlow, F. W.—The Relative Position of Rest of the Eyes and the Prolonged Occlusion Test. F. A. Davis Co.....	359	Sluder, Greenfield—Tonsillectomy. C. V. Mosby Co.....	170
Marks, Percy—The Plastic Age. The Century Co.....	358		
May, Charles H.—Manual of the Diseases of the Eye. Wm. Wood and Co.....	399		

Book Reviews—

PAGE

PAGE

- Sollmann, Torald—A Manual of Pharmacology and Its Applications to Therapeutics and Toxicology. W. B. Saunders Co..... 295
- Stewart, Harry Eaton—Diathermy and Its Application to Pneumonia. Paul B. Hoeber, Inc. 291
- Stone, Willard J.—Blood Chemistry Colorimetric Methods for the General Practitioner. Paul B. Hoeber, Inc..... 296
- Thewlis, Malford W.—Geriatrics. C. V. Mosby Co. 255
- Thomson, David—Gonorrhea. Hodder and Stoughton 400
- Thorek, Max—The Human Testis. J. B. Lippincott Co. 429
- Timme, Walter—Lectures on Endocrinology. Paul B. Hoeber, Inc..... 293
- Vecki, Victor G.—Alcohol and Prohibition: In Their Relation to Civilization and the Art of Living. J. B. Lippincott Co..... 253
- Walker, George—Venereal Disease in the American Expeditionary Forces. Medical Standard Book Co..... 295
- Walker, Kenneth M.—Diseases of the Male Organs of Generation. Oxford University Press 430
- Watson, Leigh F.—Hernia. C. V. Mosby Co... 168
- Webb, Gerald B.—Recovery Record for Use in Tuberculosis. Paul B. Hoeber, Inc.... 294
- Webster, Colonel Wm.—The Science and Art of Anesthesia. C. V. Mosby Co..... 255
- Whiteman, Royal—A Treatise on Orthopedic Surgery. Lea and Febiger..... 208
- Winslow, C. E. A.—The Evolution and Significance of the Modern Public Health Campaign. Yale University Press..... 327
- Wynne, Fred E.—Ductless and Other Glands. Alfred A. Knopf..... 253
- Brain Tumors, Localization of, by Injection of Air Into the Ventricles of the Brain—Dandy 329
- Brookes, H. S., Jr., and J. G. Probst—The Treatment of Infections of the Terminal Thalanges of the Hand..... 307
- Butesin Picrate—N. N. R..... 361
- Butyn Ointment—N. N. R..... 402
- C
- Calculus Anuria—Caulk..... 99
- California and the Diploma Mill—Editorial.... 278
- Cancer Sufferer, Exploiting the—Editorial..... 230
- Cancer Surgery: General Considerations—Twyman 9
- Candidates, Information on—Editorial..... 228
- Carbon Tetrachloride a Human Use, Capsules—N. N. R..... 402
- Carcinoma of the Breast with Pleural and Pulmonary Metastasis—Owens..... 331
- Carcinoma of the Cecum and Ascending Colon—Wiatt 41
- Cardio-Vascular Syphilis, The Treatment of—Stookey 370
- Carson, Dr. Norman B., Dinner to—Editorial.. 386
- Caulk, John R.—Analytical Study of 100 Cases of Selected Vesical Neck Obstructions Operated by the Author's Cautery Punch..... 259
- Caulk, John R.—Calculus Anuria..... 99
- Cellular Reactions Following X-Ray and Radium Therapy—Wahl 173
- Cervical Rib—Myers..... 146
- Cesarian Section—Its Indications and Limitations—Newell 269
- Chandler, John F.—The Public and the County Health Officer..... 316
- Chapin, Henry Dwight—The Management of Undernourished Infants..... 37
- Chemistry, Important Decision Helps American—Miscellany 90
- Chicken Blood and Serum in the Treatment of Pneumonia in Children, The Use of—Berger-Montgomery 137
- Child, Scott P.—Organized Medicine: Its Position and Responsibility..... 68
- Chiropractor Convicted—Editorial..... 20
- Chiropractor, Lo, the Poor—Miscellany..... 203
- Citizens' Military Training Camps, The—Editorial 157
- Clark, William A., M.D.—Editorial..... 227
- Clinical Conference at Kansas City—Editorial.. 320
- Coagulability of Blood, The Effect of Arsphenamine on the—Copher..... 106
- Cod Liver Oil-Squibb—N. N. R..... 361
- Cook, Jerome E.—The Occurrence of Endemic Typhoid Fever in St. Louis..... 344
- Cook, Jesse D.—Symptomatology of a Case of Sphenopalatine Ganglion Neurosis..... 319
- Condition That Appalled, A—Editorial..... 47
- Connell, Evan S.—Diabetic Gangrene of the Nose 277
- Constitution, Special Election February 26, to Vote on—Editorial..... 20
- Copher, Glover H.—Drainage Material and Coverings for Moist Surgical Dressings..... 419
- Copher, Glover H.—The Effect of Arsphenamine on the Coagulability of Blood..... 106
- Correspondence—Letter from Dr. Nelson..... 353
- County Health Officer, The Public and the—Chandler 316
- County Society Secretaries, Message to—Editorial 421
- Crossen, H. S.—Gynecological Diseases of Special Interest to the Internist..... 177
- D
- Dandy, W. E.—Localization of Brain Tumors by Injection of Air Into the Ventricles of the Brain 329
- Deaver, John B.—Focal Infection Within the Abdomen 31
- Dedication of the Capitol—Editorial..... 351
- Delinquent, Modifying the Behavior of the—Editorial 156
- Dementia Precox, A Type of Hereditary Degeneration—Alford 1
- Deodorized Kerosene-Welty—N. N. R..... 361
- Dermatology, Recent Developments in—Tobias.. 347
- Diabetic Gangrene of the Nose—Connell..... 277
- Diarrhea of Infants and Children—Bess..... 109
- Dibromin—N. N. R..... 362
- Dieckmann, W. J., and O. S. Krebs—The Modern Treatment of Vomiting of Pregnancy..... 335
- Digalen-Roche (Cloetta)—N. N. R..... 296
- Diphtheria, State-Wide Prevention of—Neff.... 297
- Diphtheria Toxin-Antitoxin Mixture—N. N. R. 362, 401, 402
- Diphtheria Toxin for the Schick Test-Cutter—N. N. R..... 402
- Diploma Mill Conspirator, First Indictment Against—Editorial 20
- Doctor in Politics, The—Robinson..... 268
- Dowell, Geo. S.—The Tonsil and Focal Infection 67
- Drainage Material and Covering for Moist Surgical Dressings—Copher..... 419
- Ductless Glands, Studies of Disorders of the—Engelbach 216
- Dyes, Medicinal—N. N. R..... 401

	PAGE		PAGE
Insulin-Stearnes—N. N. R.....	296	Nasal Sinuses, The Diagnosis and Treatment of	
Insulin-Stearnes, Quadruple Strength—N. N. R..	401	Chronic Diseases of the—Roberts.....	12
Internal Medicine, Congress on—Editorial.....	22	Nasal (Sphenopalatine-Meckel's) Ganglion in	
Iodostarine-Roche—Diiodotariric Acid—N. N. R.	402	Hay Fever, Treatment of—Payne.....	257
J		Neff, Frank C.—State-Wide Prevention of Diph-	
Johns, Dr. George A., Appointed State Health		theria	297
Supervisor—Editorial	155	Nelson, Dr., Letter From—Correspondence....	353
Joint Tuberculosis, Heliotherapy and—O'Reilly..	39	Neuhoff, F.—Insulin and Diet in Diabetes.....	334
K		Neurocalometer, Enter the—Editorial.....	280
Kansas City Clinical Conference—Editorial.....	386	Neuropsychiatric Clinic as a Factor in Vocational	
Kansas City Clinical Society, The First Confer-		Rehabilitation, The Out-Patient—Barnes....	43
ence of the, October 8-13, 1923—Editorial..	49	Neutral Acriflavine—Abbott—N. N. R.....	296
Karwin, Wm.—Rectal Palpation in Gynecology		New and Nonofficial Remedies.....	296, 359, 401
and Obstetrics.....	379	Newell, Quitman U.—Cesarian Section—Its Indi-	
L		cations and Limitations.....	269
Laryngologists Meet at St. Louis—Editorial....	195	Newell, Quitman U.—Conservative Gynecology..	3
Life Insurance Value, The, of Graphic Heart		News Notes.....	23, 50, 85, 118, 157, 196, 230
Records—N. N. R.....	360	281, 321, 352, 387, 422, 423
Loeflund's Malt Soup Stock (Dr. Keller's For-		Normal Horse Serum—N. N. R.....	362
mula)—N. N. R.....	360	Norton, Harry B.—Acute Poliomyelitis.....	65
Lyman, H. W.—Vestibular Tests in Relation to		O	
Internal Medicine.....	381	Obituary—	
M		Amerland, Dr. J. Henry.....	389
Marriage, Physical Examination before—Edi-		Bounds, Dr. Edward Henry.....	201
torial	420	Bryant, Dr. Jewel Auburn.....	390
Mead's Cod Liver Oil—N. N. R.....	402	Creveling, Dr. Hanley Clay.....	200
Measles, Serum Prophylaxis of—Pesetke.....	63	Cullen, Dr. Francis Edward.....	201
Measles, Some Clinical Observations on the Com-		Donnell, Dr. Robert E.....	52
plications and Treatment of—Zahorsky....	35	Drake, Dr. William D.....	353
Medical Ethics Vindicated—Editorial.....	279	Eimbeck, Dr. August F.....	353
Medical Expert Witness, Plan to Abolish—Edi-		Gehring, Dr. Eugene C.....	424
torial	350	Glasgow, Dr. Frank Adams.....	390
Medicine, The Future of—An Ideal to be Sought		Gray, Dr. Henry.....	200
—Warnshuis	214	Harlan, Dr. Warren E.....	128
Medicine, The Victories of—Robinson.....	209	Hunt, Dr. Thomas G.....	283
Mentally Sick, St. Louis Cares for the—Editorial		Hypes, Dr. Benjamin J.....	425
Message to County Society Secretaries—Edi-		McCandless, Dr. Wm. A.....	424
torial	421	McGrew, Dr. William Mastin.....	201
Missouri Methodist Hospital—Editorial.....	422	Martin, Dr. John B.....	283
Miscellany—		Meinhard, Dr. Joseph.....	391
American Chemistry, Important Decision Helps		Mills, Dr. R. Walter.....	121
Awards from the Benjamin Franklin Fund,		Morris, Dr. Christopher C.....	283
Announcement of.....	91	Mount, Dr. Robert L.....	324
Banning, Pierson W.—International Faker....	202	Nifong, Dr. William.....	283
Chiropractor Held Liable for Malpractice....	426	Oetting, Dr. Otto.....	283
Chiropractor, Lo, the Poor.....	203	Pettijohn, Dr. Abra C.....	353
Fined by U. S. Government.....	427	Postlewait, Dr. John A.....	52
Friends of Medical Progress, Inc., The—Or-		Reynolds, Dr. W. B.....	353
ganization of Local Chapters.....	203	Ross Dr. Leonidas C.....	128
Group Medicine.....	427	Schmidt, Dr. Richard H.....	201
Medical Profession Should be Relieved from		Smith, Dr. Merrill Neville.....	201
Present Tax Burdens, Why the.....	89	Thatcher, Dr. John T.....	128
President of the American Medical Associa-		Williams, Dr. Dandy C.....	425
tion, Dr. Ray Lyman Wilbur, The.....	52	Williams, Dr. George B.....	128
Woman's Auxiliary to the Missouri State Med-		Obstetrics and Gynecology, The Bladder in—	
ical Association.....	231, 391	Schmitz	61
Missouri Association for Criminal Justice—Edi-		Obstruction, Partial, at Duodenojejunal Junction	
torial	385	as Cause of Ulcer of Duodenum—N. N. R..	361
Montgomery, Jas. G., and Harry Calvin Berger—		Old Time Doctor, The Passing of the—Editorial	385
The Use of Chicken Blood and Serum in the		Oleo-Bi (Roche)—N. N. R.....	402
Treatment of Pneumonia in Children.....	137	Olmsted, W. H.—Practical Suggestions in the	
Montgomery, James G.—Suspension-Extension		Use of Insulin.....	300
Apparatus	189	Optic Neuropathies, Etiologic Study of a Series	
Myers, W. A.—Cervical Rib.....	146	of—N. N. R.....	360
		O'Reilly, Archer—Heliotherapy and Joint Tuber-	
		culosis	39
		O'Reilly Archer—Shoes.....	417
		Organized Medicine: Its Position and Responsi-	
		bility—Child	68
		Oridine—N. N. R.....	401
		Oriental Sores in the United States (Cutaneous	
		Leishmaniasis)—N. N. R.....	360

	PAGE
Orr, Thomas G.—Physiologic Amputations.....	383
Out-Patient Neuropsychiatric Clinic as a Factor in Vocational Rehabilitation, The—Barnes..	43
Owens, M. J.—Carcinoma of the Breast with Pleural and Pulmonary Metastasis.....	331
P	
Parathyroid Tablets—Armour—N. N. R.....	361
Parenteral Infection as a Factor in the Produc- tion of Autonomic Imbalance in Infants and Children—White	372
Patch's Flavored Cod Liver Oil—N. N. R.....	361
Payne, R. J.—Treatment of Nasal (Sphenopala- tine-Meckel's) Ganglion in Hay Fever.....	257
Pearse, Herman E.—Fractures of the Femur....	139
Peptic Ulcer; Medical and Surgical Problems— Hunt	403
Pertussis Vaccine—N. N. R.....	362
Pasetke, S. E.—Serum Prophylaxis of Measles..	63
Petrolagar—N. N. R.....	296
Physician as Candidate for Governor, A—Edi- torial	350
Physiologic Amputations—Orr.....	383
Pituitary Solution—Wilson, Ampules—N. N. R..	401
Pituitary Tablets—Armour, Anterior—N. N. R..	361
Pituitrin "S" (Surgical)—N. N. R.....	360
Pneumonias, The Influence That the Etiology of the, Should Have Upon Their Treatment— Stine	363
Pneumonia, The Use of Chicken Blood and Serum in the Treatment of, in Children— Berger-Montgomery	137
Polioomyelitis, Acute—Norton.....	65
Political Candidates, Information on—Editorial..	192
Post, Lawrence—Amblyopia Following Epistaxis in Thromboplastic Purpura.....	152
Post-Operative Fever, A Type of, Probably Ma- larial Relapse—N. N. R.....	360
Potassium Bismuth Tatrte, D. R. L.—N. N. R..	359
President of the American Medical Association— Miscellany	52
Probststein, J. G. and H. S. Brookes, Jr.—The Treatment of Infections of the Terminal Phalanges of the Hand.....	307
Procaine-Epinephrine, Ampules—N. N. R.....	361
Professional Observations in South America While on a Cruise in 1923, Some—Grinstead	274
Public Health Summer Schools—Editorial.....	195
Pulmonary Anthrax with Report of Case—Bell..	407
R	
Rabies Vaccine (Human), Phenol Killed— N. N. R.....	401
Rabies Vaccine-Pasteur (Cutter)—N. N. R.....	402
Radium and X-Ray Therapy Cellular Reactions Following—Wahl	173
Radium Emanation, National—N. N. R.....	401
Rapid Transit in Large Cities—Editorial.....	351
Rectal Examination in the Conduct of Labor— Wilson	64
Rectal Palpation in Gynecology and Obstetrics— Kerwin	379
Reregistration of Physicians—Editorial.....	48
Retiring President, Remarks of the—Francisco..	80
Rice, Samuel O.—Electric Light and Power Bonds—Finance and the Physician.....	25
Roberts, Sam—The Diagnosis and Treatment of Chronic Diseases of the Nasal Sinuses.....	12
Robinson, G. Wilse—A Way of Living.....	409
Robinson, G. Wilse—The Doctor in Politics....	268
Robinson, G. Wilse—The Victories of Medicine.	209
Roentgenologist's Report, The Scope of the— N. N. R.....	402

S	PAGE
Sagrotan—N. N. R.....	361
Scarlet Red Sulphonate—N. N. R.....	360
Schisler, Edwin and E. Eugene Brown—Anes- thesia in Cardiac Disease and Its Complica- tions	309
Schisler, Edwin J.—A Case of Arteriosclerosis and Vasque's Disease.....	82
Schmitz, Edgar F.—The Bladder in Obstetrics and Gynecology.....	61
Serum Prophylaxis of Measles—Pesetke.....	63
Shoes—O'Reilly	417
Silver-Salvarsan—N. N. R.....	362
State Hospital Bulletin, A—Editorial.....	422
Way of Living, A—Robinson.....	409
Society Proceedings—	
Assistant Physicians of State Hospital, Medical Society of.....	354, 394
Association of Assistant Physicians.....	287
Boone County Medical Society.....	57
Caldwell County Medical Society.....	58, 206, 324, 395, 428
Callaway County Medical Society.....	396
Cape Girardeau County Medical Society.....	93, 206, 288, 324, 354, 396, 428
Cass County Medical Society.....	396
Chariton County Medical Society.....	288
Clay County Medical Society..	95, 132, 206, 355, 428
Clinton County Medical Society.....	96, 133
Cooper County Medical Society.....	96
County Society Honor Roll for 1924.....	26, 53, 91, 129, 162, 203, 235, 284, 324, 354, 394
Craford County Medical Society.....	288
Davies County Medical Society.....	206
Dunklin County Medical Society.....	96
Fourth District Missouri Medical Association..	397
Gasconade-Maries-Osage County Medical So- ciety	94
Henry County Medical Society.....	96, 250
Howell County Medical Society.....	133, 162, 251
Howell-Oregon County Medical Society....	355, 428
Johnson County Medical Society.....	207
Knox County Medical Society.....	397
Missouri Society of Medical Secretaries....	167, 244
Missouri State Medical Association, 67th An- nual Session.....	129, 163, 235
New Madrid County Medical Society.....	207
Pettis County Medical Society.....	134, 162, 251
Proceedings of the Washington University Medical Society..	26, 53, 91, 129, 203, 248, 284
Randolph County Medical Society.....	134, 324
St. Francis County Medical Society.....	134
Ste. Genevieve County Medical Society.....	135
St. Louis County Medical Society.....	58, 97, 134, 397
Schuyler County Medical Society.....	134
Scott County Medical Society.....	134
Southeast Missouri Medical Association....	57, 251
Stoddard County Medical Society....	251, 289, 355
Taney County Medical Society.....	162
Texas County Medical Society.....	356, 429
Vernon County Medical Society.....	135
Wright-Douglas County Medical Society....	135, 252, 325, 429
Woman's Auxiliary to the Missouri State Med- ical Association.....	325
Sophian, A.—Essential Hypertension: Primary Hyperadrenalism	102
Sphenopalatine Ganglion Neurosis, Symptoma- tology of a Case of—Cook.....	319
Spine, A Method of Implanting the Bone Graft in the—Grantham.....	107
Spleen, Traumatic Rupture of the Normal— Wallace	18
Springfield is Ready for You—Editorial.....	154
Springfield Session, The—Editorial.....	83, 115, 191

	PAGE
Staphylococcus Combined Vaccine—N. N. R. . . .	362
St. Louis University Acquires Hospital Group— Editorial	83
Stine, D. G.—The Influence that the Etiology of the Pneumonias Should Have Upon Their Treatment	363
Stookey, Paul F.—The reatment of Cardio-Vas- cular Syphilis.	370
Sulpharsphenamine-Squibb—N. N. R.	401, 402
Suspension-Extension Apparatus—Montgomery. .	189
Syphilis and the Syphilitic, Some Nearly Forgotten Principles in the Modern Recognition and Treatment of—Graves.	179
Syphilis, The Treatment of Cardio-Vascular— Stookey	370

T

Tax Burdens, Why the Medical Profession Should be Relieved From Present—Miscel- lany	89
Tetanus Antitoxin for Human Use—Cutter— N. N. R.	402
Thiosinamine—N. N. R.	401
Tobias, Norman—Recent Developments in Der- matology	347
Tonsil and Focal Infection, The—Dowell.	67
Truth About Medicines, The.	296, 359, 401
Twyman, E. D.—Cancer Surgery: General Considerations	9
Typhoid Paratyphoid Vaccine—N. N. R.	362

U

Undernourished Infants, The Management of—
Chapin 37

V

Veronal, Elixir of—N. N. R.....	402
Vesical Neck Obstructions Operated by the Author's Cautery Punch, Analytical Study of 100 Cases of Selected—Caulk.....	259

	PAGE
Vestibular Tests in Relation to Internal Medicine —Lyman	381
Vitalait Culture Bacillus Acidophilus—N. N. R. .	361
Vogt, William H.—Address of Retiring President	81
Vomiting of Pregnancy, The Modern Treatment of—Dieckmann-Krebs	335

W

Wahl, H. R.—Cellular Reactions Following X-Ray and Radium Therapy.....	173
Wallace, H. K.—Traumatic Rupture of the Normal Spleen.....	18
Warnshuis, Frederick C.—The Future of Medicine—An Ideal to be Sought.....	214
Wassermann Test, Positive, A Fatal Case of Estivo-Autumnal Malaria—N. N. R.....	360
White, Park J.—Parenteral Infection as a Factor in the Production of Autonomic Imbalance in Infants and Children.....	372
Wiatt, W. S.—Carcinoma of the Cecum and Ascending Colon.....	41
Wilson, Leslie A.—Rectal Examination in the Conduct of Labor.....	64
Winners in Chemical Society Prize Essay Contest—Editorial	196
Wobus, Reinhard E.—Anesthesia in Minor Surgery	16
Woman's Auxiliary, The—Editorial	386
Woman's Auxiliary—Miscellany	391
Woman's Auxiliary to the Missouri State Medical Association—Miscellany.....	231

X

X-Ray and Radium Therapy, Cellular Reactions Following—Wahl	173
---	-----

Z

Zahorsky, John—Some Clinical Observations on
the Complications and Treatment of Measles 35





412
169+

ER
11
1897

